US EPA RECORDS CENTER REGION 5



DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION RCRA Corrective Action Environmental Indicator (EI) RCRIS Code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name Clean Harbors Services, Inc.

Facility Address 11800 S. Stony Island Avenue, Chicago, Illinois 60617

Facility EPA ID No.

ILD000608471

Prepared by:

Ryan Bennett, RCRA-GAU

Date: March 8, 2004

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and the monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

It must be noted that the "Migration of Contaminated Groundwater Under Control" evaluation is sometimes referred to as a "CA750" determination. "CA750" is the entry item in RCRIS where the results of this evaluation are recorded.

Relationship of EI to Final Remedies

While final remedies remain the long-term objective of the RCRA Corrective Action program, the EI are near-term objectives which are currently being used as program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated groundwater and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration/Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e, RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Purpose of this Document

The purpose of this document is to provide a written record of information considered and efforts made to conduct a "Migration of Contaminated Groundwater Under Control" evaluation at the above-referenced facility. This facility is subject to the corrective action provisions of RCRA.

| 1. | Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination? | | | | | | | |
|----|---|---|--|--|--|--|--|--|
| | X Yes | If yes, check here and continue with #2 below. | | | | | | |
| | No | If no, re-evaluate existing data, or | | | | | | |
| | Unknown | If data are not available, skip to #8 and enter "IN" (more information needed) status code. | | | | | | |
| | Rationale and References: | | | | | | | |
| | RCRA Part B Permit renewal application | | | | | | | |
| | 4 th Ouarter 2004 | Monitoring Report, Clean Harbors SVCS INC | | | | | | |

Facility USEPA ID No. Page 3

2. Is groundwater known or reasonable suspected to be "contaminated" above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

"Contamination" and "contaminated" describe media containing contaminants (in any for, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

| X Yes | If yes, continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation. |
|---------|--|
| No | If no, skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated." |
| Unknown | If unknown, skip to #8 and enter "IN" status code. |

Rationale and References:

Organics: Benzene maximum detected concentrations: 91 - 182 ug/L

4-Chloroaniline maximum detected concentration: 79 ug/L

Inorganics: Sodium (total): 150,000 - 1,890,000 ug/L

Sodium (dissolved): 1,640,000 - 2,060,000 ug/L

Sulfate (total): 463,000 ug/L

Chloride (dissolved): 308,000 - 2,630,000 ug/L

Fluoride (dissolved): 1,250 – 2,010 ug/L Copper Zinc (dissolved): 44 – 52 ug/L

Zinc (dissolved): 213 ug/L

Reference: 4th Quarter 2004 Monitoring Report, Clean Harbors SVCS INC

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater" as defined by the monitoring locations designated at the time of this determination)?

"Existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

Rationale and References:

The groundwater compliance monitoring program consists of five (5) groundwater monitoring wells and four (4) upgradient wells. The facility is required to analyze from all monitoring wells at the compliance point for all constituents contained in Appendix I at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer. The facility must comply with the criteria set forth in 35 Ill. Adm. Code 724.199, Compliance Monitoring Program. While the facility has had exceedences in the past, it has been determined that the exceedences are related to fill material used to create the pier the site was built upon.

Reference: RCRA Part B Permit

Title 35 Illinois Adm. Code

4th Quarter 2004 Monitoring Report, Clean Harbors SVCS INC

| | oes "contaminated" groundwater discharge into surface water bodies? | | | | | | |
|-----------------|--|--|--|--|--|--|--|
| Yes | If yes, continue after identifying potentially affected surface water bodies. | | | | | | |
| _ <u>X</u> _ No | If no skip to #7 (and enter a"YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies. | | | | | | |
| Unknown | If unknown, skip to #8 and enter "IN" status code. | | | | | | |

Rationale and References:

While there is surface water in the vicinity of the regulated unit(s), the facility currently is in a compliance monitoring program with upgradient and downgradient monitoring wells. Data from these wells indicate that "contaminated" groundwater has not compromised the point of compliance at this time.

Reference: RCRA Part B renewal

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g. the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)? "Concentrations" as measured in groundwater prior to entry to the groundwater surface water/sediment interaction (e.g., hyporheic) zone. If yes, skip to #7 (and enter a"YE" status code in #8, if #7 = yes), after Yes documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system. No If no, (the discharge of "contaminated" groundwater into surface water is potentially significant). Continue after documenting: 1) the maximum known or reasonable suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing. Unknown If unknown, enter "IN" status code in #8.

Rationale and References:

6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented)? Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater for pathways near surface water bodies.

The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

Yes If yes, continue after either

- identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded b the discharging groundwater OR
- 2. providing or referencing an interim-assessment appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and ecosystems, until such time when a full assessment and final remedy decision can be made.

Factors which should be considered in the interim assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

appropriate for making the EI determination.

No

If no, (the discharge of "contaminated" groundwater cannot be shown to be "currently acceptable") skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

Unknown

If unknown, skip to #8 and enter "IN" status code.

Rationale and References:

Facility USEPA ID No. Page 8

| 7. | Will groundwater monitoring/measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?" | | | | | | | |
|----|--|--|--|--|--|--|--|--|
| | _X_ Yes | If yes, continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination." | | | | | | |
| | No | If no, enter "NO" status code in #8. | | | | | | |
| | Unknown | If unknown, enter "IN" status code in #8. | | | | | | |
| | Rationale and Re | ferences: | | | | | | |

Groundwater monitoring and remediation at the site continues in accordance with the approved groundwater monitoring program, with results being reported quarterly to the Illinois EPA.

| 8. | Under Contro and date on the | Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750)), and obtain supervisor (or appropriate manager) signatur and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility). | | | | | | | |
|----|---------------------------------|--|--|--|--|--|--|--|--|
| | XYE | Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Clean Harbors Services, Inc. facility, EPA ID #0316000051, located at 11800 S. Stony Island Avenue, Chicago, Illinois. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring well be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater." This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility. | | | | | | | |
| | NO | Unacceptable migration of contaminated groundwater is observed or expected. | | | | | | | |
| | IN | More information is needed to make a determination. | | | | | | | |
| | Completed by | y: (signature) Du Detruet Date: 3/8/04 (print) Ryan Bennett, RCRA-GAU (title) Environmental Protection Geologist | | | | | | | |
| | Supervisor: | (signature) Tembloke Mys Date: 3/8/04 | | | | | | | |
| | | (print) Terribane Myers (title) Manager ACPA-GAU (EPA Region or State) Illinois | | | | | | | |
| | Locations wh | ere references may be found: | | | | | | | |
| | Contac | t: Ryan Bennett, RCRA-GAU | | | | | | | |

Contact telephone and e-mail numbers:

(name) (phone #) (e-mail)

Comprehensive Corrective Action Report

Report run on: March 8, 2004 - 3:48 PM

Version: 2.0

User Selection Criteria

Location: ILLINOIS

Handler Name: Clean Harbons Services Enc.

Handler ID: ILD000608471

Group of IDs: Not Chosen

County Code:

Results

Data meeting the criteria you selected follows.

Total Pages: 4

Total Handlers 1

Report Description

This report lists ALL corrective action data for all facilities that meet the selection criteria. Events not linked to authorities and areas -- considered "orphan" events or "one parent" events -- are displayed on this report. Areas and authorities not linked to events "orphans" are also displayed.

Report Information

Name:

compca.rdf

Developed by:

EPA Headquarters, Office of Solid Waste

Deployed:

November 2002

Last Updated:

May 6, 2003

Contact:

rcrainfo.help@epa.gov

Tables Used:

hbasic, hreport_univ, aevent, aarea, aca_authority, aln_area_event, aln_event_authority,

lu_authority, lu_ca_event, lu_state, gpra_ca, hid_groups

Libraries:

decodes.pll

Report run on: March 8, 2004 - 3:48 PM

List of Handler Universe Abbreviations

Generator Generator of RCRA Hazardous Waste

LQG - Large Quantity Generator SQG - Small Quantity Generator

CEG - Conditionally Exempt Small Quantity Generator

N - nongenerator (verified)

Transporter Transporter of RCRA Hazardous Waste

Full Enforcement Full Enforcement

Operating TSDF Operating Treatment, Storage, and Disposal Facility

BOYSNC Beginning of Year Significant Non-Complier

SNC Significant Non-Complier
Annual BOY Enf Annual Beginning of Year Enforcement (CM&E GPRA)

Allitual DOT Lill Allitual Degitting of Teal Efforcement (Civide GFTA)

Subj CA Subject to Corrective Action

Subj CA TSD 3004 TSDFs Potentially Subject to Corrective Action Under 3004(u)/(v)
Subj CA TSD Discr TSDFs Subject to Corrective Action Under Discretionary Authorities
Subj CA Non-TSD Non-TSDFs Where Corrective Action Has Been Imposed

Subj CA Non-15D Non-15DFS Where Corrective Action i

CA Wrkld Corrective Action Workload

Perm Prgrs Permitting/Closure/Post-Closure Progress

L - Land Disposal; I - Incinerator; B - BIF; S - Storage; T - Treatment

PermWrkld Permit Workload

L - Land Disposal; I - Incinerator; B - BIF; S - Storage; T - Treatment

Clos Wrkld Closure Workload

L - Land Disposal; I - Incinerator; B - BIF; S - Storage; T - Treatment

Pclos Wrkld Post-Closure Workload

L - Land Disposal; I - Incinerator; B - BIF; S - Storage; T - Treatment

Op Pmt GPRA Operating Permit GPRA

"+" Facility has approved controls in place; "-" Facility does not have approved controls in

Pclos GPRA place

Post-Closure Permit GPRA

CA GPRA "+" Facility has approved controls in place; "-" Facility does not have approved controls in

nlace

CA HE EI Corrective Action GPRA

"+" All Environmental Indicators are controlled; "-" Not all Environmental Indicators are

CA GW El controlled

Corrective Action Human Exposures Environmental Indicator

"+" Human Exposures controlled; "-" Human Exposures not controlled Corrective Action Releases to Groundwater controlled Environmental Indicator "+" Release to Groundwater controlled; "-" Release to Groundwater not controlled

Comprehensive Corrective Action Report Report run on: March 8, 2004 - 3:48 PM

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| | Notes: ADDED (| CA100 ON 1/29/ | | | | | | | | | |
| CA Authority Operating Permit | | | Suborg. RPB | Staff R5GH | Attny R5 | Resp. A | | Loc. | 09/30/1993 | 09/30/19 | |
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| | complete charac | terization entire f | | ombined ba | sis, and si | ubmit final F | Phase | I ČMP R | pproved. Facility port by January | | |
| | CA200 RFI APPROVED | | | Sta | | IL | | 09/2003 | | | |
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| | RFI WORKPLAN | | | | | | 00/- | 20,2002 | | | |
| | | former Chemical | | | | | | | mental RFI Work s received by the | | 1 |
| | CA190 RFI REPORT RE | 1 ECEIVED | | Sta | te | IL | 01/0 | 02/1998 | | | |
| | Notes: The RFI F | Phase II/III Repor | t pertains to | _ | | | | • | | | |
| | CA170 RFI SUPPLEME | 1 NTAL INFO DEE | MED SATIS | Sta FACT | te | IL | 03/0 | 06/1997 | | | |
| | CA150 RFI WORKPLAN | 2 JAPPROVED | | Sta | te | IL | 03/0 | 06/1997 | | | |
| | Notes: The Illinoi to the original Cl | is EPA letter date | ed March 6, fi | 1997, Log No | o. B-16-C | A-2, approv | ed the | RFI Pha | se II/III Workplan | , pertaining | į. |
| | CA110 RFI WORKPLAN | 2 NRECEIVED | | Sta | te | IL | 05/0 | 06/1996 | | | |
| | Notes: A Combir 1996, Log No. B | ned Phase II/III R | FI Workplan | was submitt | ed in acco | ordance wit | h the I | llinois EP | A letter dated Ja | nuary 31, | |
| | CA170 RFI SUPPLEME | 1 NTAL INFO DEE | MED SATIS | EP/ | 4 | IL | 01/3 | 31/1996 | | | |
| | CA340 | 1 | | Sta | te | IL | 12/0 | 06/1995 | | | |
| | CMS REPORT F Notes: The Initial | | sures Progra | m Final Ren | ort conce | rned propos | sed rer | medial ac | tivities for the for | mer Wasto | |
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Comprehensive Corrective Action Report Report run on: March 8, 2004 - 3:48 PM

| A Authority - con | Suborg. | Staf | f At | tny | Resp. A | Agy Loc. | Issue Date 09/30/1993 | Effective Date | | |
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| | CA110 RFI WORKPLA Notes: This Sup | 3 N RECEIVED plemental RFI W | ork Plan pert | ains to | State the forme | r Cher | IL nical Wast | 12/06/1995 e Managemen | portion of the fac | cility. This |
| | submittal was m | ade in accordanc | e with the Co | orrectiv | e Action s | ection | of Clean I | Harbors' RCRA | permit, Log No. I | B-16. |
| | CA150 RFI WORKPLA | 1 N APPROVED | | | State | | IL | 10/31/1994 | | |
| | CA110 RFI WORKPLA | 1 N RECEIVED | | | State | | 1L | 08/02/1994 | 03/04/1993 | |
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^{*} End of Report *

L0316000051--Cook County Clean Harbors of Chicago, Inc. ILD000608471
RCRA Permits **CERCLA Environmental Priorities Initiative Preliminary Assessment** Report Illinois Environmental Protection Agency P.O. Box 19276, Springfield, Il 62794-9276 Confidential Material May be Enclosed

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I. EXECUTIVE SUMMARY

Clean Harbors of Chicago is a commercial storage and treatment facility using physical and chemical methods to treat selected wastes. Primary treatment operations include chemical precipitation, coagulation, filtration, and stabilization/fixation. Some wastes require pre-treatment and these operations include neutralization, chemical oxidation/reduction, oil recovery and other pre-treatment. Hazardous waste codes handled at Clean Harbors of Chicago include D-wastes, K-wastes and F-wastes (see Table 2).

Based on information acquired during the Preliminary Review, a list of Solid Waste Management Units (SWMUs) was completed. The list of SWMUs included drum storage areas, laboratories, loading/unloading areas, process units, landfill, old lagoons and a wastewater treatment system. The Visual Site Inspection identified additional SWMUs and some SWMUs were grouped into specific processes. Spill information from Illinois EPA Office of Chemical Safety files did not identify any additional areas of concern.

The final list of Solid Waste Management Units identified are the result of the Preliminary Review, Visual Site Inspection and information provided by the facility. This list contains 36 SWMUs (see Table 1), which are described in Section III and shown in Attachment A and B. Based on a review of the information acquired and summarized for this site, the following generalizations can be made:

- No further action is recommended for the drum storage areas (SWMU Nos. 1, 2 and 3), drum staging area (SWMU No. 4), Safety-Kleen Unit (SWMU No. 5), former sludge storage pad (SWMU No. 8), organic laboratory (SWMU No. 12), storage tank (SWMU No. 23), treatment unit (SWMU No. 25) and filter presses (SWMU Nos. 34 and 35).
- Soil sampling is recommended for the outside drum storage areas (SWMU Nos. 7 and 9), auxiliary basin #3 (SWMU No. 15), landfill (SWMU No. 16), former disposal basins (SWMU Nos. 17 thru 21), treatment unit (SWMU No. 22), oil contaminated storage area (SWMU No. 24) and unloading pad (SWMU No. 32).
- Soil sampling is recommended for the process sewer system (SWMU No. 6), carbon absorption system (SWMU No. 10), inorganic laboratory (SWMU No. 11), oil/water separator (SWMU No. 13), former 10,000 gallon sludge feed tank (SWMU No. 14), sludge tank (SWMU No. 26), storage tanks (SWMU Nos. 27 thru 30), receiving tanks (SWMU No. 31), sludge dewatering system (SWMU No. 33) and drum storage area (SWMU No. 36) if the integrity of the tanks sumps, floor drains and/or sewer lines has been breached.

TABLE 1

LIST OF SOLID WASTE MANAGEMENT UNITS

Clean Harbors of Chicago, Inc. Chicago, Illinois

Hazardous/Solid Waste Storage Areas

SWMU No. 1 Acid Drum Storage Area

- SWMU No. 2 Alkaline Drum Storage Area
 SWMU No. 3 Organic Drum Storage Area
 SWMU No. 4 Drum Staging Area
 SWMU No. 7 Outside Drum Storage Area 1
- SWMU No. 8 Former Sludge Storage Pad SWMU No. 9 Outside Drum Storage Area 2
- SWMU No. 14 Former 10,000 Gallon Sludge Feed Tank
- SWMU No. 23 Special Waste Storage Tank
- SWMU No. 24 Oil Contaminated Soil Storage Area SWMU No. 26 13,000 Gallon Concrete Sludge Tank
- SWMU Nos. 27-30 Hazardous and Solid Waste Storage Tanks
- SWMU No. 31 7,000 Gallon Concrete Receiving Tanks
- SWMU No. 36 Inside Drum Storage Area

Treatment Units

- SWMU No. 10 Carbon Absorption System
- SWMU No. 13 Oil/Water Separator
- SWMU No. 22 Chemical Reduction/Oxidation Pretreatment System
- SWMU No. 25 Chemical Treatment Unit
- SWMU No. 33 Sludge Dewatering System

<u>Miscellaneous</u>

- SWMU No. 5 Safety-Kleen Unit
- SWMU No. 6 Process Sewer System
- SWMU No. 11 Inorganic Laboratory
- SWMU No. 12 Organic Laboratory
- SWMU No. 15 Auxiliary Basin #3
- SWMU No. 16 Landfill
- SWMU No. 17 Former Temporary Pickle Liquor Basin
- SWMU No. 18 Former Pickle Liquor Disposal Site
- SWMU No. 19 Former Permanent Pickle Liquor Basin
- SWMU No. 20 Former Oil Basin
- SWMU No. 21 Former Lime Basin
- SWMU No. 32 Truck Unloading Pad
- SWMU No. 34 Former Rotary Filter Press
- SWMU No. 35 Mobile Filter Press

II. GENERAL DESCRIPTION

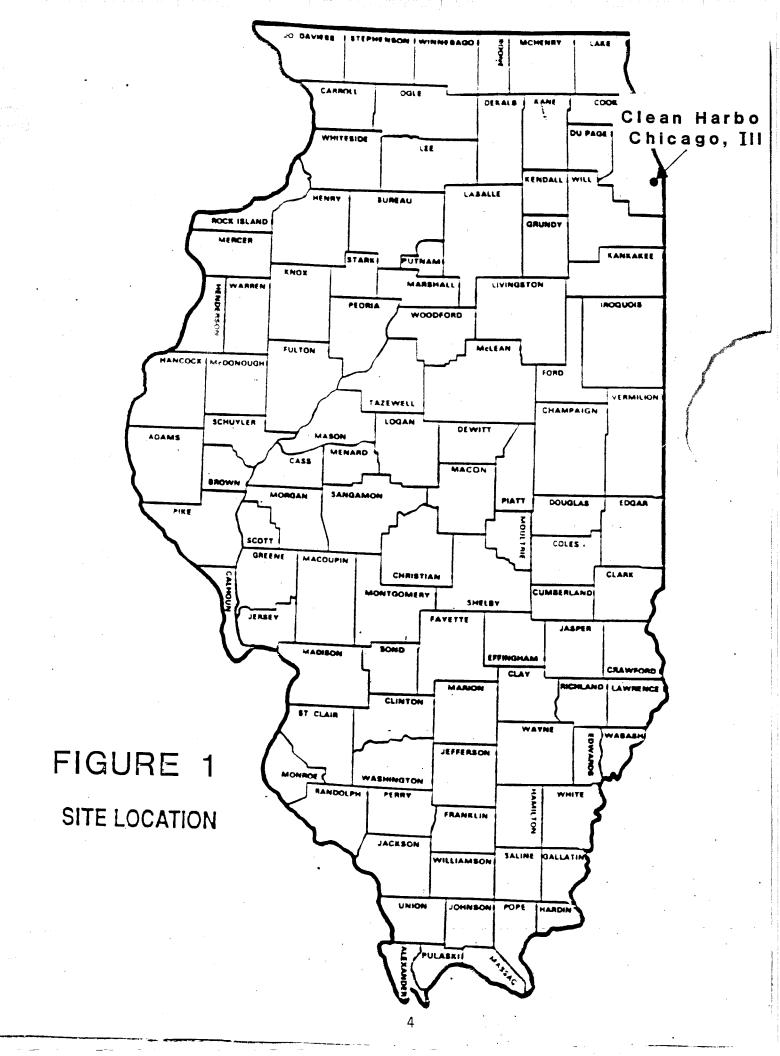
A. FACILITY DESCRIPTION

Clean Harbors of Chicago Inc. is located on a 25.5 acre parcel of land in Cook County, within the East 1/4 of Section 23 and the West 1/2 of Section 24 in Township 37 North, Range 14 East (see Figures 1 and 2). (Clean Harbors uses the east 1/3 of the pier between slip number 4 and slip number 6, on Lake Calumet). The facility address is 11800 South Stony Island Avenue Chicago, Illinois and is owned by Clean Harbors Environmental Services Companies, 1200 Crown Colony Drive, Quincy, Massachusetts. Clean Harbors leases the pier from the Chicago Port Authority, now called the International Port District.

Operations at this location began in the early 1970's by International Hydronics Corporation, also known as Hyon Corporation. Hyon used the pier for the storage, treatment and disposal, in lagoons, of hazardous waste and wastewater. (The lagoons were filled with pickle liquor waste then lime was added to stabilize the pickle liquor and produce a sludge). These operations used the eastern two-thirds of the present Clean Harbors pier. The west one-third of the pier was filled in with stabilized acid-lime sludge that vas excavated from the lagoons. Hyon ceased operations sometime after June 29, 1976, with Envirotherm taking over operations SCA Chemical Services bought out Envirotherm, until 1980. but did not use any of the pier currently leased by Clean The site was leased by Chem-Clear in 1980 after the lagoons and landfill were covered over with unknown material. Chem-Clear operated at the site until 1989, when ownership changed to Clean Harbors of Chicago, Inc.

B. PROCESS DESCRIPTION

Clean Harbors of Chicago began operations at this facility in 1981, with current operations in the treatment of selected chemicals by physical and chemical methods. The company also provides temporary storage of hazardous wastes prior to offsite shipment to a recovery, reclaiming, or disposal facility. The waste accepted for treatment include: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste, and the waste from the washing and cleaning of tanks and equipment containing alkaline or acid solutions. The waste accepted for storage only include: non-hazardous lab packs, hazardous lab packs, wastewater treatment sludge and/or other wastes from aluminum surface coating and etching, wastewater sludges



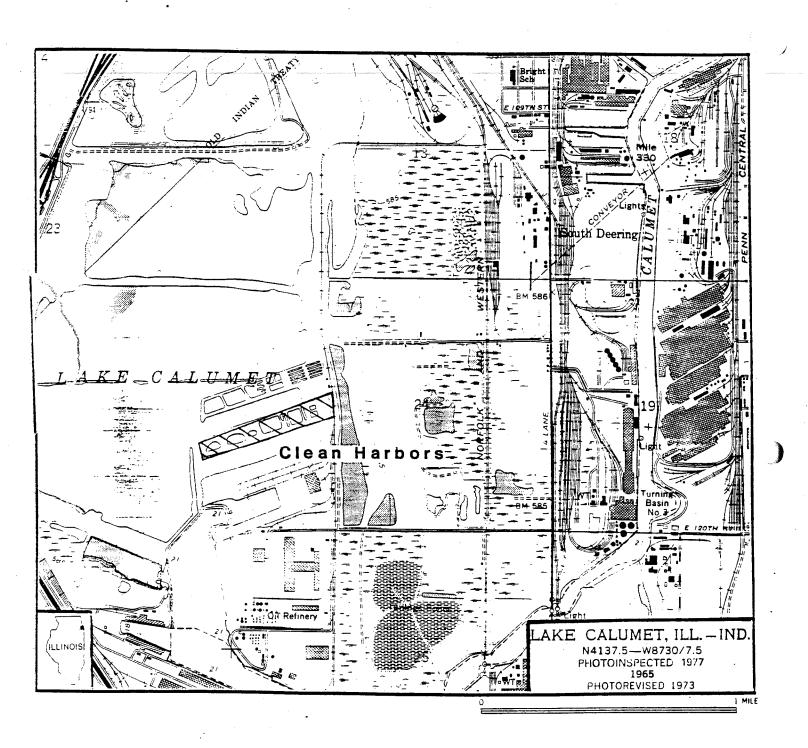


FIGURE 2

TABLE 2

CATEGORIES OF WASTE RECEIVED AT CLEAN HARBORS OF CHICAGO

| Waste No. | Description |
|-----------|--|
| D002 | A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste. (Accepted for treatment and storage). |
| D004 | A solid waste that exhibits the characteristic of EP toxicity for arsenic at 5.0 mg/l or more. (Accepted for treatment and storage). |
| D005 | A solid waste that exhibits the characteristic of EP toxicity for barium at 100.0 mg/l or more. (Accepted for treatment and storage). |
| D006 | A solid waste that exhibits the characteristic of EP toxicity for cadmium at 1.0 mg/l or more. (Accepted for treatment and storage). |
| D007 | A solid waste that exhibits the characteristic of EP toxicity for chromium at 5.0 mg/l or more. (Accepted for treatment and storage). |
| D008 | A solid waste that exhibits the characteristic of EP toxicity for lead at 5.0 mg/l or more. (Accepted for treatment and storage). |
| D009 | A solid waste that exhibits the characteristic of EP toxicity for mercury at 0.2 mg/l or more. (Accepted for treatment and storage). |
| D010 | A solid waste that exhibits the characteristic of EP toxicity for selenium at 1.0 mg/l or more. (Accepted for treatment and storage). |
| D011 | A solid waste that exhibits the characteristic of EP toxicity for silver at 5.0 mg/l or more. (Accepted for treatment and storage). |
| D018 | A solid waste that exhibits the characteristic of EP toxicity for benzene at 0.5 mg/l or more. (Accepted for storage only). |
| D019 | A solid waste that exhibits the characteristic of EP toxicity for carbon tetrachloride at 0.5 mg/l or more. (Accepted for storage only). |
| D020 | A solid waste that exhibits the characteristic of |

- EP toxicity for chlorodane at 0.03 mg/l or more. (Accepted for storage only).
- D021 A solid waste that exhibits the characteristic of EP toxicity for chlorobenzene at 100.0 mg/l or more. (Accepted for storage only).
- D022 A solid waste that exhibits the characteristic of EP toxicity for chloroform at 6.0 mg/l or more. (Accepted for storage only).
- D023 A solid waste that exhibits the characteristic of EP toxicity for o-cresol at 200.0 mg/l or more. (Accepted for storage only).
- D024 A solid waste that exhibits the characteristic of EP toxicity for m-cresol at 200.0 mg/l or more. (Accepted for storage only).
- D025 A solid waste that exhibits the characteristic of EP toxicity for p-cresol at 200.0 mg/l or more. (Accepted for storage only).
- D026 A solid waste that exhibits the characteristic of EP toxicity for cresol at 200.0 mg/l or more. (Accepted for storage only).
- D027 A solid waste that exhibits the characteristic of EP toxicity for 1,4-dichlorobenzene at 7.5 mg/l or more. (Accepted for storage only).
- D028 A solid waste that exhibits the characteristic of EP toxicity for 1,2-dichloroethane at 0.5 mg/l or more. (Accepted for storage only).
- D029 A solid waste that exhibits the characteristic of EP toxicity for 1,1-dichloroethylene at 0.7 mg/l or more. (Accepted for storage only).
- D030 A solid waste that exhibits the characteristic of EP toxicity for 2,4-dinitrotoluene at 0.13 mg/l or more. (Accepted for storage only).
- D031 A solid waste that exhibits the characteristic of EP toxicity for heptachlor at 0.008 mg/l or more. (Accepted for storage only).
- D032 A solid waste that exhibits the characteristic of EP toxicity for hexachlorobenzene at 0.13 mg/l or more. (Accepted for storage only).
- D033 A solid waste that exhibits the characteristic of EP toxicity for hexachloro-1,3-butadiene at 0.5 mg/l or more. (Accepted for storage only).

- D034 A solid waste that exhibits the characteristic of EP toxicity for hexachloroethane at 3.0 mg/l or more. (Accepted for storage only).
- D035 A solid waste that exhibits the characteristic of EP toxicity for methyl ethyl ketone at 200.0 mg/l or more. (Accepted for storage only).
- D036 A solid waste that exhibits the characteristic of EP toxicity for nitrobenzene at 2.0 mg/l or more. (Accepted for storage only).
- D037 A solid waste that exhibits the characteristic of EP toxicity for pentachlorophenol at 100.0 mg/l or more. (Accepted for storage only).
- D038 A solid waste that exhibits the characteristic of EP toxicity for pyridine at 5.0 mg/l or more. (Accepted for storage only).
- D039 A solid waste that exhibits the characteristic of EP toxicity for tetrachloroethylene at 0.7 mg/l or more. (Accepted for storage only).
- D040 A solid waste that exhibits the characteristic of EP toxicity for trichloroethylene at 0.5 mg/l or more. (Accepted for storage only).
- D041 A solid waste that exhibits the characteristic of EP toxicity for 2,4,5-trichlorophenol at 400.0 mg/l or more. (Accepted for storage only).
- D042 A solid waste that exhibits the characteristic of EP toxicity for 2,4,6-trichlorophenol at 2.0 mg/l or more. (Accepted for storage only).
- D043 A solid waste that exhibits the characteristic of EP toxicity for vinyl chloride at 0.2 mg/l or more. (Accepted for storage only).
- The following spent halogenated solvents used in degreasing tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures and blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).
- F002 The following spent halogenated solvents:

tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above listed halogenated solvents or those solvents listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).

- The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).
- The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol and 2-nitropropane; all spent solvent mixtures and blends, containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).
- Wastewater treatment sludges from electroplating operations except from the following processes:

 (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; (6) chemical etching and milling of aluminum. (Accepted for storage only).
- K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments. (Accepted for storage only).
- K003 Wastewater treatment sludge from the production of molybdate orange pigments. (Accepted for storage only).
- K004 Wastewater treatment sludge from the production of

- zinc yellow pigments. (Accepted for storage only).
- K005 Wastewater treatment sludge from the production of chrome green pigments. (Accepted for storage only).
- K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated). (Accepted for storage only).
- K007 Wastewater treatment sludge from the production of iron blue pigments. (Accepted for storage only).
- K008 Oven residue from the production of chrome oxide green pigments. (Accepted for storage only).
- K048 Dissolved air flotation (DAF) float from the petroleum refining industry. (Accepted for storage only).
- K049 Slop oil emulsion solids from the petroleum refining industry. (Accepted for storage only).
- K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry. (Accepted for storage only).
- K051 API separator sludge from the petroleum refining industry. (Accepted for storage only).
- K052 Tank bottoms (leaded) from the petroleum refining industry. (Accepted for storage only).
- K060 Ammonia still lime sludge from coking operations. (Accepted for storage only).
- K061 Emission control dust/sludge from the primary production of steel in electric furnaces.

 (Accepted for storage only).
- K062 Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) (as defined in 35 Ill. Adm. Code 720.110). (Accepted for treatment and storage).
- K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (Accepted for storage only).
- K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning

tubs and equipment used in the formulation of ink pigments, driers, soaps and stabilizers containing chromium and lead. (Accepted for storage only).

- K087 Decanter tank tar sludge from coking operations. (Accepted for storage only).
- K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds. (Accepted for storage only).
- K102 Residue from use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (Accepted for storage only).

and/or other wastes from the manufacture of inorganic pigments, wastewater treatment sludge and/or other wastes from electroplating operations, emission control dust or sludge, spent pickling liquor and other wastes from the iron and steel industry, spent solvent mixtures containing, before use, a total of ten percent or more (by volume) of those solvents listed in F001 through F005, wastes from the pharmaceutical manufacturing, wastes from ink formulation, wastes from coking operations, wastes from the tannery industry, wastes from the photoprocessing industry, wastes from the graphic arts industry, wastes from the battery industry, hazardous hospital wastes, hazardous used oils, and non-hazardous used, waste, off-specification or surplus oils.

The first procedure at Clean Harbors is to prequalify a sample from a prospective customer prior to acceptance of the customer's waste on-site. The generator will complete a waste material profile sheet and submit supporting documentation such as lab analyses, material safety data sheets, and/or other literature. A sample of the waste is submitted by the generator and is analyzed in Clean Harbors' Chicago or Braintree, Massachusetts laboratory. determination is made on whether or not the waste can be accepted according to the prequalification analysis (see Table 3). If the waste is accepted, the generator can begin shipping waste to the site in either drums or tanker trucks. Once the waste is received at Clean Harbors, a physical/ chemical analysis is performed to verify the contents of the shipment, with additional testing parameters added if needed. Based on the results of the analysis, the shipment is either rejected or accepted. If accepted, the waste will be stored on-site in designated hazardous waste storage areas until it can be used in one of the processes, lab packed and/or transferred off-site. The waste is not recharacterized every year, but is prequalified whenever the generator indicates the process generating the waste has changed or if Clean Harbors suspects the waste received is not the waste prequalified.

C. WASTE MANAGEMENT OPERATIONS

Clean Harbors specializes in the treating of solid and liquid inorganic hazardous waste into a non-hazardous sludge. (The complete list of wastes received by Clean Harbors is provided in Table 2). The wastes received are hazardous due to corrosivity and EP toxicity for metals.

Other types of waste received at the site are either stored until the waste is transferred off-site or the waste is lab packed until shipped off-site. (The types of waste received for storage only are listed in Table 2). These wastes are then stored in a drum storage area depending on the type of waste (acid, alkaline or organic waste).

TABLE 3

PREQUALIFICATION TESTING PARAMETERS

Physical Description
pH Screen
Water Mix Characteristics
Ignitable Screen
Reactive Cyanides Screen
Reactive Sulfides Screen
Settleable Solids
Floating Solids or Oil

Oil on Acidification
Neutralization Equivalent
Chemical Oxygen Demand
Solids Content
Metal Content
Organic Components
Compatibility
Sample Treatability

SUPPLEMENTAL TESTING PARAMETERS

Percent Acidity Absorbent Reactivity GC/MS Scan Heat Phase Separation Cyanides-Peroxide Amenable Cyanides-Chlorination Amenable Cyanides-Conversion Amenable Liquid Waste Compatibility Sulfide-Peroxide Amenable Water Acceptance Hexavalent Chromium Phosphates Nitrates Total Cyanides Oil and Grease Total Residue Miscellaneous Metals (Cu, Fe, Ca, Mg, Mn, Ni, Zn)

Percent Alkalinity pH Spectrum Specific Gravity Gas Chromatography Scan Soluble Sulfides Sulfate Screen Paint Filter Test Distillation Active test Toxicity Characteristic Sulfates Chlorides Free Cyanides Total Sulfides Phenols Heavy Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag)

Three types of hazardous waste and two types of non-hazardous waste are generated on-site from treatment operations and/or operations associated with the treatment of waste. hazardous waste generated on-site include waste flammable liquid, waste petroleum naptha and 1,1,1-trichloroethane. The waste flammable liquid is generated from the carbon absorption unit (SWMU #10) at a rate of 600 gallons per year. The waste is stored in drums (see SWMU #36), inside the carbon absorption unit building. The waste is transported to Clean Harbors, Braintree, Massachusetts facility for reclamation. The waste petroleum naptha is generated from the Safety-Kleen parts cleaner unit (SWMU #5) at a rate of 300 gallons per year. The waste is hauled off-site by Safety-Kleen personnel to their Portage, Indiana facility for recycling. The 1,1,1-trichloroethane is generated from the bulking operations, with the rate of generation variable. The waste is transported to Systech in Greencastle, Indiana for incineration.

The two types of non-hazardous waste, wastewater treatment sludge and waste oil, are generated from on-site treatment operations. The wastewater treatment sludge is generated from the sludge dewatering system (SWMU #33) at a rate of 8,000 cubic yards per year. The waste is transported daily in 35 cubic yard trailers to the Winthrop Harbor landfill. The waste oil is generated from the oil/water separator (SWMU #13) at a rate of 120,000 gallons per year. The waste oil is transported to Systech in Greencastle, Indiana for recycling.

D. REGULATORY HISTORY

On November 17, 1980, Chem-Clear submitted their RCRA Part A permit application to the U.S. Environmental Protection Agency. The Part B permit application was received by the Illinois Environmental Protection Agency on February 25, 1983, with the revised Part B submitted on September 28, 1990 and February 20, 1991. The Part B permit application identifies the following Hazardous Waste Management Units (HWMU): acid drum storage area (SWMU No. 1), alkaline drum storage area (SWMU No. 2), organic drum storage area (SWMU No. 3), drum staging area (SWMU No. 4), carbon absorption unit (SWMU No. 10), oil/water separator (SWMU No.13), pretreatment system (SWMU No. 22), chemical treatment unit (SWMU No. 25) and four waste storage tanks (SWMU Nos. 27 thru 30).

The facility applied for a permit from the Illinois Environmental Protection Agency Division of Land Pollution Control, on May 14, 1980, including additional plans dated August 13 and October 14, 1980, to develop a waste management facility. The developmental permit (1980-36-DE) was granted on October 27, 1980, with the operating permit (1980-36-OP) granted to the facility on October 22, 1981. The original

operating permit includes the following revisions: Log Numbers 1990-532 (1990-478, 1990-476, 1990-277, 1990-250, 1990-156, 1990-155, 1990-007, 1989-237, 1984-759, 1985-219, 1986-083, 1986-101, 1986-145, 1987-022, 1988-294, 1989-007, 1989-173). Besides these permits issued to the facility by the Division of Land Pollution Control, the facility has permits from the IEPA Division of Water Pollution Control (DWPC) and the Division of Air Pollution Control (DAPC). The permit from the DWPC (1990-EN-1301) is for their process sewer system, with the effluent discharged to the Metropolitan Water Reclamation District of Greater Chicago. The permit from the DAPC (031600BTE) is for the following four emission sources:

Carbon Absorption System 84210029 Filter Press Building 85120021 Packed Countercurrent Scrubber 87080055 Wastewater Treatment Facility 83120017.

E. COMPLIANCE HISTORY

Clean Harbors of Chicago, Inc., according to Illinois EPA Land Division Files, has resolved all previous violations. These past violations include: manifest violation 855.104, closure/post closure violation 725.212, financial violations 725.243, 725.242(b) and 724.251 and other violations 725.116(b), 725.115(b), 725.116, 725.137 and 725.115(d).

Clean Harbors has been in violation of discharge standards set by the Metropolitan Water Reclamation District of Greater Chicago. The violations from 1984 to 1990 include the following parameters: mercury, pH, total cyanide, readily releaseable cyanide, polychlorinated biphenyls, sulfur bearing wastewater, copper, fats, oils and greases, lead, nickel, iron, zinc, total chromium and discharging an effluent with noxious gases (hydrogen sulfide).

F. VISUAL SITE INSPECTION

A visual site inspection (VSI) was conducted at the Clean Harbors facility in Chicago, Illinois on December 19, 1990. Bob Casper, Judy Triller and Greg Dunn of the Illinois EPA arrived on-site at 9:35 a.m. Clean Harbors of Chicago representative, Mr. James Laubsted, was present during the VSI.

Clean Harbor and IEPA representatives met in Mr. Laubsted's office to discuss the objectives of the VSI. The site history and site processes were explained by Mr. Laubsted and IEPA personnel submitted a list of solid and hazardous waste

management units to be inspected. An aerial photograph from the mid 1970's was shown to Mr. Laubsted. The aerial photograph showed the past pickle liquor lagoons and the stormwater retention basin. A photocopy of the map was provided to Mr. Laubsted. The meeting lasted from 9:35 a.m. to 11:30 a.m.

At 11:40 a.m. the facility tour began with the inspection of the outside drum storage area 1 (SWMU #7), on the north side of process building #1. This area was used to store drums, but currently contains two mobile trailers. West of the drum storage area 1 is the four hazardous and solid waste storage tanks (SWMU #27-30). The tanks are surrounded by a concrete and/or a gravel berm, both with a pvc liner. No leaks were observed on the ground or in the area of the overhead pipes.

The south side of process building #1, beginning with the inspection of the mobile filter press (SWMU #35), was the next area visited. The filter press is located partly on the truck unloading pad (SWMU #32) and partly on the gravel parking lot. The filter press was in good condition, with no observed spills in the area of the trailer or conveyor belt. The outside drum storage area 2 (SWMU #9) located just north of the mobile filter press was observed next. No drums were observed on the concrete pad because the pad has not been used since early 1990. The concrete was in good condition, with a sump, associated with the concrete receiving tanks, nearby to collect any previous spills. During the inspection of the drum storage pad, three 35 cubic yard trailers (SWMU #24) were observed on the south side of the property. trailers contained oil contaminated soil and associated clean-up equipment. The trailers were placed on a gravel lot, with no observed leaks or spills in this area.

The four concrete receiving tanks (SWMU #31) were observed next. The tanks appeared to be in good condition, but the sump surrounding the tanks was full of material or debris in a couple of areas. Directly south of the concrete receiving tanks is the truck unloading pad (SWMU #32). The unloading pad is constructed of concrete, with no curbing around the edges to deter material from flowing into the gravel. A sump around the concrete receiving tanks is used to collect any spills from trucks unloading material into the receiving tanks. A few cracks were observed in the concrete pad.

The next area visited was the east side of the facility where the former pickle liquor, oil and lime basins (SWMU #17-21) were located in the 1970's. This area is now covered by grass and/or portions of the gravel parking lot. No observations could be made on these units. The IEPA personnel left the site at 12:30 p.m. for lunch.

Arriving on-site at 1:30 p.m. after lunch, the first area observed was the area on the west side of the pior. In this

area, the landfill (SWMU #16) and the auxiliary basin #3 (SWMU #15) were located in the 1970's. This area is now overgrown with brushy material and weeds. A few trees were observed growing on this part of the site.

Following the areas west of the facility, the visual inspection began on the inside parts of the process buildings. The first areas observed inside were the organic (SWMU #12) and inorganic (SWMU #11) laboratories. The labs are located inside process building #1, and are used to screen waste material coming into the facility. The waste material after analysis is placed into one of the four receiving tanks. Floor drains and sink drains in the inorganic lab, discharge into the concrete sludge tank (SWMU #26). The organic lab drains flow into a five gallon container that is emptied into one of the receiving tanks.

Inside the main part of process building #1, the chemical treatment unit (SWMU #25) was observed. All the tanks are located on a concrete floor, with the floor sloping toward the concrete sludge tank (for spill collection). Southwest of the chemical treatment area was the process sewer system (SWMU #6). This area contained a Metropolitan Water Reclamation District of Greater Chicago sampling station. Before leaving the south end of process building #1, the 13,000 gallon in-ground concrete sludge tank (SWMU #26) was observed. The tank had a metal grate over the top of the tank, with no other visual observations of the tank possible.

The carbon absorption unit (SWMU #10) and the inside drum storage area (SWMU #36) were the next areas observed. These units are located inside a concrete block building, just west of process building #1. Three drums of waste, all in good condition, from the carbon system were observed against the west wall. No cracks were observed in the concrete floor or walls of the building. A floor sump on the southeast side of the building collects any spills or leaks from the carbon system or drums. The sump was not observed during the VSI.

Proceeding to process building #2, the inside drum storage areas for acid, alkaline and organic wastes and the drum staging area were observed (SWMU #1-4, respectively). The drums are all located on a concrete floor that slopes toward a floor trench used to collect spills and leaks. The types of waste stored (acid, alkaline or organic) are segregated by concrete curbs and metal railings. The concrete in this area was in good condition, with no spills or leaks observed.

The sludge dewatering system (SWMU #33) was observed next in process building #2. The system has a 120 cubic foot recessed chamber pressure filter that solidifies the sludge. The sludge drops into a 35 cubic yard trailer that is underneath the filter. Three tanks associated with the system were also in this area and all appeared to be in good

condition. A floor sump near the tank area collects any spills, with the material pumped back into the sludge tank (SWMU #26). The concrete in this area was in good condition and no spills were observed during the VSI.

The last area observed during the VSI was the north end of process building #1. This area contained the oil/water separator system (SWMU #13), chemical reduction/oxidation pretreatment system (SWMU #22), special waste storage tank (SWMU #23) and the safety-kleen unit (SWMU #5). The oil/water separator system consists of four tanks contained within a concrete containment system. A sump within this system pumps any collected material back into one of the two reactor tanks. The tanks and concrete were in good condition, no cracks were observed in the curbing or concrete floor. Some small spill areas were noticed inside the containment system.

The chemical reduction/oxidation pretreatment system is located on a concrete floor, with the floor sloping toward the in-ground sludge tank (SWMU #26). The tank is used to collect any spills from this unit. The concrete was in good condition and no spills or stains were observed in this area.

The safety-kleen unit is in the same area as the pretreatment system and is also located on the concrete floor. A nearby sump collects any spills from this unit, with any collected material pumped into the sludge tank (SWMU #26). The area around the safety-kleen unit was clean, with no cracks or stains observed in the concrete. (See Table 6 for a summary of all on-site tanks).

After the visual site inspection, the IEPA personnel and Mr. Laubsted returned to the office trailer to clarify some of the units observed during the VSI. IEPA personnel left the Clean Harbors facility at 4:30 p.m. Photographs of the Visual Site Inspection are provided in Attachment C.

G. ENVIRONMENTAL SETTING

The climate of the Chicago area is characterized by cold winters and warm summers, but areas near Lake Michigan are cooler in the summer. In winter the average temperature is 25 degrees Fahrenheit and in the summer the average temperature is 71 degrees Fahrenheit.

The annual precipitation (rainfall and melted snowfall) in the Chicago region is 33.4 inches. The wettest months are June, July and September, with December, January and February the driest months. The heaviest one day rainfall in Chicago was 4.25 inches. The wind patterns (wind is primarily out of the south and southwest) from the Gulf of Mexico supply a majority of the moisture for this region during the summer months.

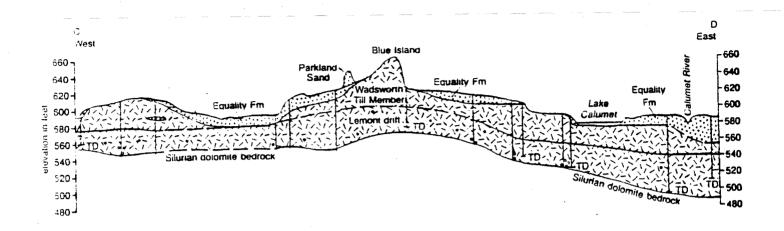
The soils at the Clean Harbors facility consist primarily fill material to an unknown depth. (This material was used to build the current pier area). Underlying the fill is approximately 10 feet of silts, clays and sands of the Equality Formation. The Wadsworth Till Member (about 30 feet thick) underlies the Equality Formation and consists of clayey gray tills. Below the Wadsworth Till Member is the Lemont Drift, which consists of yellow-gray silty till and sand and gravel (approximately 45 feet thick). Underlying the Lemont Drift is the Silurian dolomite of the Niagaran and Alexandrian Series. The Silurian dolomite is encountered approximately 90 feet below the surface (see Figure 3).

Approximately eight boreholes have been drilled at the Clean Harbors facility (see Figure 4 for the locations). The results indicate the presence of volatiles, semi-volatiles and heavy metals, with some elevated concentrations (see Table 4 for a summary). One other area exists on-site allegedly containing significant levels of hexachlorobenzene. (Attachment D contains the analytical data for all on-site samples).

Four aquifers systems exist in the Lake Calumet area and are designated as: 1) sand and gravel deposits of the glacial drift; 2) shallow Silurian dolomite; 3) Cambrian-Ordivician aguifer; and 4) Mt. Simon sandstone (IEPA, 1986). majority of private wells for homes and light industry use the shallow dolomite aquifer. The Maquoketa shale, a confining layer, separates the shallow dolomite aquifer from the Cambrian-Ordivician aquifer. The larger industries will obtain water from the Cambrian-Ordivician aquifer, which is a combination of six different units (ISWS and ISGS, 1959). The Eau Claire Formation (primarily shales) separates the Cambrian-Ordivician aquifer from the Mt. Simon sandstone aguifer. The Mt. Simon sandstone is also used by large industrial users due to the depth needed to penetrate the formation. A four mile radius map for the Clean Harbors facility is provided in Attachment E.

The major source of water for residents and industry in the Lake Calumet area is supplied by the City of Chicago from Lake Michigan. However, some private wells exist in this area, but most private wells are used for watering lawns only. There are 6 private wells within four miles of this site, serving approximately 17 people, that use groundwater for drinking (ISWS well logs). The closest well used for drinking is 1.95 miles south southeast of the site. Area well logs are provided in Attachment F.

As many as five monitor wells exist on-site, with one monitor well drilled by Clean Harbors and the other four wells drilled by Hyon Waste Management. The well drilled by Clean



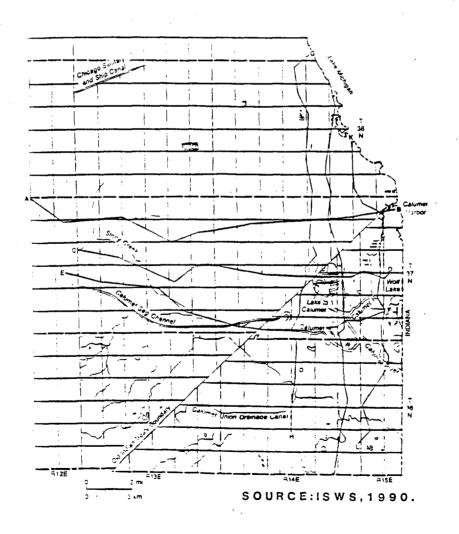
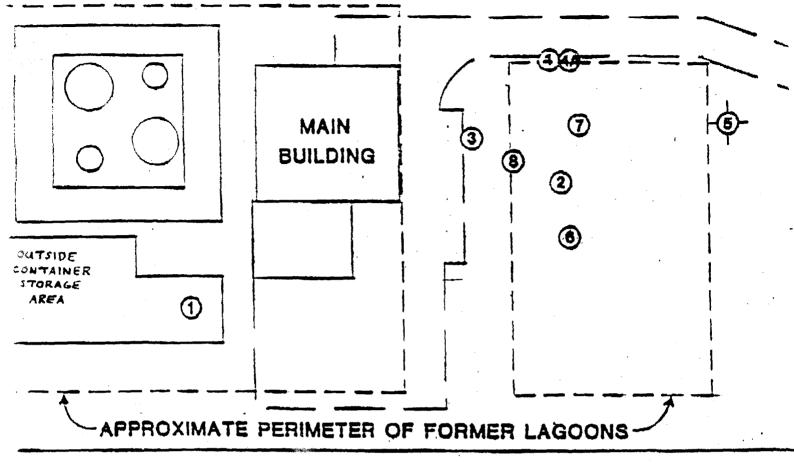


FIGURE 3 LAKE CALUMET CROSS-SECTION



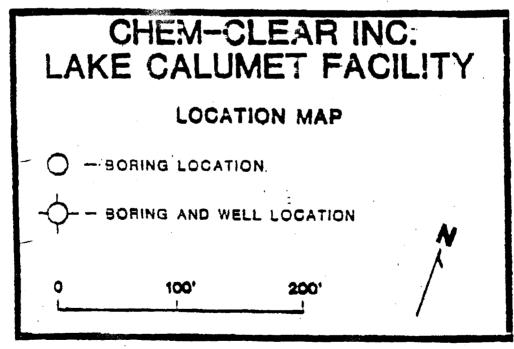


FIGURE 4 BOREHOLE LOCATIONS

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

TABLE 4

(concentrations in ppm)

| | <u>B1,S1</u> | <u>B1.S2</u> | <u>B1,S3</u> | <u>B1,S4</u> | B2,S1 | B2,S2 |
|--|----------------|--------------|--------------|--------------|----------------|--------|
| methylene chloride | | | | | | |
| acetone | | | 0.96 | 1.0 | 0.21 | 0.87 |
| 1,1-dichloroethane | | | | | | |
| chloroform | | | | | | |
| 1,2-dichloroethane | | - | | | | |
| 2-butanone | | | | | | |
| 1,1,1-trichloroethane | | | | | | |
| trichloroethene | | | | | | |
| benzene | | 8.0 | 0.45 | 0.96 | 0.006 | 0.037 |
| 4-methyl-2-pentanone | | | 0.13 | 0.36 | | |
| tetrachloroethene | | | | | | |
| toluene | | 0.064 | 3.5 | 2.5 | 0.007 | 0.038 |
| chlorobenzene | ~- | | | | | |
| ethylbenzene | | | | 0.034 | | 0.010 |
| xylenes (total) | | | | 0.13 | 0.11 | |
| phenol | =- | , . | 12.0 | 22.0 | | |
| 2,4-dichlorophenol | | | | | | |
| 2-methylnaphthalene | | | - | | - - | |
| 4-chloroaniline | | | · AND AND A | , == | | |
| hexachlorobenzene | | | | | | |
| phenanthrene fluoranthene | | | | | | |
| | 2.8 | | | | | |
| pyrene | 2.1 | | | | | |
| bis(2-ethylhexyl)phthalate benzo(k)fluoranthene | | | | | | |
| 1,2-dichlorobenzene | | | | | *** | |
| 1,4-dichlorobenzene | | | | | | |
| barium | | | | | | |
| cadmium | | | | | | |
| chromium | 315.0 | 156.0 | 222 | | 150.0 | 272 0 |
| lead | 400.0 | 330.0 | 323.0 | 152.0 | 152.0 | 373.0 |
| mercury | 400.0 | 330.0 | 160.0 | 150.0 | 260.0 | 0.1200 |
| selenium | | | | | | 0.1298 |
| | - - | | | | | |

⁻⁻ indicates compound not detected B-indicates boring number S-indicates sample number

TABLE 4 (cont.)

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

| | B2,S3 | <u>B2,S4</u> | <u>B3,S1</u> | <u>B3,S2</u> | <u>B3,S3</u> | <u>B3,S4</u> |
|----------------------------|-------------|----------------|--------------|--------------|--------------|--------------|
| methylene chloride | | | | | | 0.59 |
| acetone | 0.82 | 1.4 | | 0.1 | 0.28 | 2.7 |
| 1,1-dichloroethane | | | | | 0.28 | 0.026 |
| chloroform | | | | | | 0.14 |
| 1,2-dichloroethane | | | | | ` | 0.35 |
| 2-butanone | 0.027 | | | | | 0.15 |
| 1,1,1-trichloroethane | | | | | | 0.19 |
| trichloroethene | | | | | | 2.9 |
| benzene | 0.32 | 4.1 | | | 0.062 | 0.32 |
| 4-methyl-2-pentanone | 0.074 | 0.2 | | | 0.002 | U.32 |
| tetrachloroethene | | | | | | 0.37 |
| toluene | 0.14 | 0.7 | | | | 4.0 |
| chlorobenzene | | | | | | 4.0 |
| ethylbenzene | 0.019 | 0.048 | | | | 0.81 |
| xylenes (total) | 0.12 | 0.3 | | | | 5.0 |
| phenol | 11.0 | | | | 8.7 | 5.0 |
| 2,4-dichlorophenol | | | | | 0.7 | |
| methylnaphthalene | 2.6 | | | | | |
| 4-chloroaniline | | | 9.4 | | | |
| hexachlorobenzene | | | 23.0 | | 8.4 | |
| phenanthrene | | | 23.0 | 4.2 | 0.4 | |
| fluoranthene | 2.8 | | | 4.2 | | |
| pyrene | 2.1 | | | 3.3 | | |
| bis(2-ethylhexyl)phthalate | 2.1 | | 28.0 | J.J | | |
| benzo(k) fluoranthene | | | 5.6 | | | |
| 1,2-dichlorobenzene | | | 5.6 | 12.0 | | |
| 1,4-dichlorobenzene | | | | 13.0 | 8.0 | |
| barium | | | | 4.0 | | 0.040 |
| cadmium | | | | 0.390 | | |
| chromium | | | 5.53 | 4.46 | 2.55 | 6.94 |
| | 286.0 | 964.0 | 531.0 | 1320.0 | 380.0 | 370.0 |
| lead | 250.0 | _ _ | 400.0 | 300.0 | | 900.0 |
| mercury | 0.0947 | | 0.172 | | 0.0614 | 0.4582 |
| selenium | | | | | | |

⁻⁻ indicates compound not detected B-indicates boring number S-indicates sample number

TABLE 4 (cont.)

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

| | <u>B4,S1</u> | B4,S2 | <u>B4,S3</u> | B4,S4 |
|----------------------------|--------------|-------------|--------------|----------------|
| methylene chloride | | | | |
| acetone | 0.21 | 0.094 | | 0.066 |
| 1,1-dichloroethane | | | | |
| chloroform | | | | |
| 1,2-dichloroethane | | | | 0.005 |
| 2-butanone | 0.040 | | | |
| 1,1,1-trichloroethane | | | | · |
| trichloroethene | 0.043 | | | 0.046 |
| benzene | 0.011 | 0.29 | | |
| 4-methyl-2-pentanone | | | | |
| tetrachloroethene | | | | |
| toluene | | | | 0.009 |
| chlorobenzene | 0.054 | . , <u></u> | | - - |
| ethylbenzene | 0.094 | 8 .0 | | |
| xylenes (total) | 0.44 | 0.042 | | 0.032 |
| phenol | | | | |
| 2,4-dichlorophenol | 4.1 | | | |
| 2-methylnaphthalene | | | | |
| 4-chloroaniline | 18.0 | | | 11.0 |
| hexachlorobenzene | 11.0 | | | 25.0 |
| phenanthrene | | | | |
| fluoranthene | | | | |
| pyrene | | | | |
| bis(2-ethylhexyl)phthalate | 6.7 | | | 8.8 |
| benzo(k) fluoranthene | | | <u></u> | |
| 1,2-dichlorobenzene | | | | 0.039 |
| 1,4-dichlorobenzene | *** | | | |
| barium | | | | |
| cadmium | 2.73 | | | 6.49 |
| chromium | 473.0 | 234.0 | 306.0 | 764.0 |
| lead | | | | 640.0 |
| mercury | 0.0741 | | 0.0721 | |
| selenium | | 53.0 | ~- | |

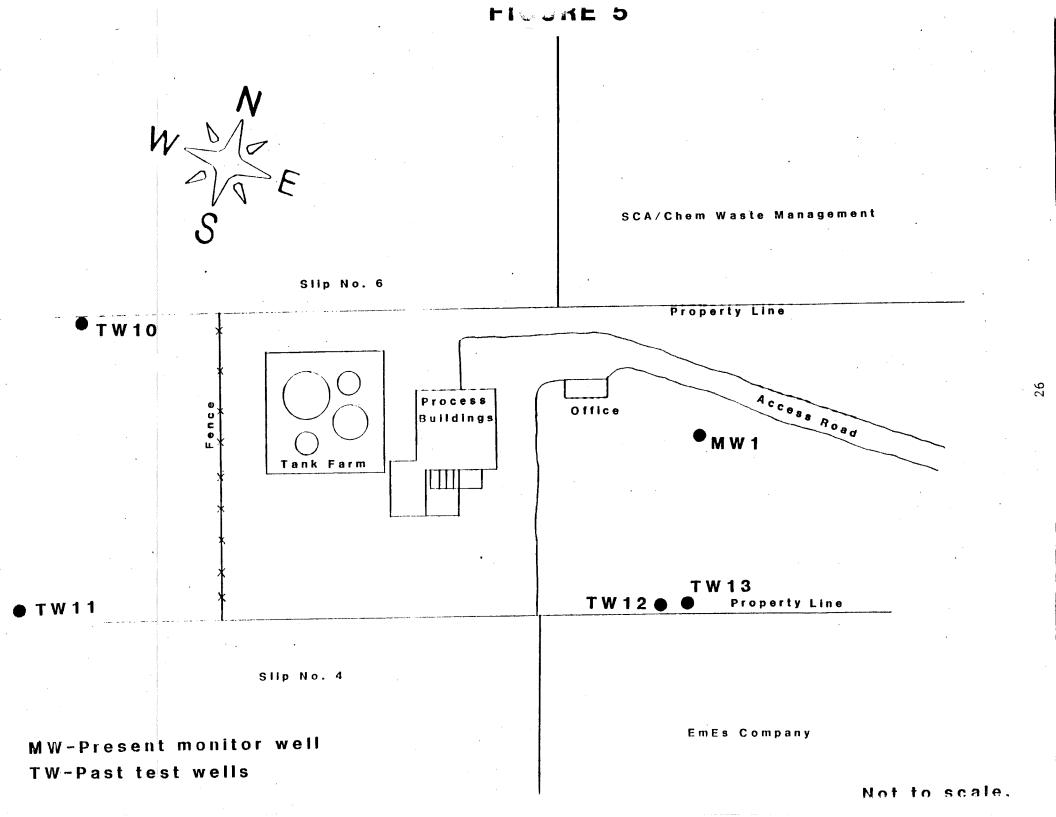
⁻⁻ indicates compound not detected B-indicates boring number S-indicates sample number

Harbors is monitored quarterly (see Table 5 for summary), but the other four wells are not sampled by the facility. The last time these wells were sampled (according to IEPA records) was in January of 1974. At least two of the wells still exists on-site, but the other two were not observed. (See Table 5 and Figure 5 for the summary of monitor well samples and the locations of the wells, respectively).

Storm water run-off from areas around the unloading pad and within the tank farm flow into sumps that are pumped back into tanks for treatment. The run-off from the rest of the site will flow into Lake Calumet, which is less than 50 feet from the tank farm and 80 feet from the unloading pad. Calumet flows south toward the Calumet River which is two miles (stream miles) from the site. The water flowing into the Calumet River flows either north toward Lake Michigan or south into the Little Calumet River. The water from the Calumet River is diverted south through the O'Brien Lock and Dam for navigational and discretionary purposes (HWRIC RR-The discretionary use applies to water flowing south into the Little Calumet River to dilute the flow (for water quality improvement purposes). The Calumet River is approximately two miles (stream miles) from the site, with Lake Michigan approximately eight stream miles from Clean The Little Calumet River is three miles from the site (one mile from Lake Calumet) and the Cal-Sag Channel is 9.5 miles from Clean Harbors. Lake Calumet is not used for recreation (according to Illinois Department of Conservation's Illinois Fishing Guide), but the Little Calumet River and Lake Michigan are used for recreation. drinking water intake for Chicago is located within fifteen miles of the site. A fifteen mile surface water map is provided in Attachment G.

Air releases have occurred at the facility at least twice in the last ten years. The first incident occurred in September of 1987 when a wastestream accepted at Clean Harbors had a higher sulfur content than originally tested. The result was mercaptan emissions from the plant. The other air release happened in November of 1983 when a load of sulfuric/nitric acid was delivered to the site. When the driver of the truck opened the hatch, a orange color cloud was released from the tanker. The incidents did not cause any injuries or apparent harm to the environment. No complaints of odors from nearby industries have been documented since the 1987 incident. The total population within a four mile radius of the Clean Harbors facility is approximately 295,000 people.

Three other releases verified by Clean Harbors were the result of spills. The first spill occurred on January 6, 1985 when 100,000 gallons of metal hydroxide sludge was spilled from a pipeline rupture. The material was contained within process building #1 and the tank farm. The sludge was removed from these areas and placed in a sound tank. The



TABLF 5

SUMMARY OF MONITOR WELL RESULTS
(concentrations in ppm)

| | MW1 12-20-90 | TW10 01-31-74 | TW13 01-31-74 | TW14 01-31-74 |
|--------------------|-----------------|------------------|------------------|------------------|
| methylene chloride | 1.80 | | | |
| phenol . | 1.60 | 0.82 | | |
| arsenic | 0.05 | 0.004 | 0.012 | 0.425 |
| barium | | | | |
| cadmium | | | 0.40 | 0.08 |
| copper | | 0.10 | 300.00 | 0.13 |
| cyanide | | 6.00 | | |
| total chromium | | 0.14 | 420.00 | 0.33 |
| total iron | | 0.10 | 36500.00 | 550.00 |
| lead | | 0.45 | 1.50 | 2.00 |
| manganese | | 0.62 | 400.00 | 20.50 |
| mercury | | 0.0003 | 0.0003 | |
| nickel | 0.12 | 0.10 | 45.00 | 1.00 |
| s e lenium | | | | |
| silver | | | 0.22 | 0.05 |
| //inc | 0.08 | 0.80 | 520.00 | 15.00 |

NOTE: inorganic compounds for MW1 were analyzed for total concentrations

⁻⁻ indicates compound not detected
TW indicates test wells installed at site in 1973 (not monitored)
MW indicates monitor well currently on-site and monitored
TW14 background well used to compare 1973 results

second spill occurred on July 18, 1990 when a drum apparently fell off a truck. Approximately 30 gallons of oil containing 1,1,1-trichloroethane was spilled in a 36 square foot area. Four 55-gallon drums of material were collected from the spilled area. The third incident happened on August 11, 1990 when a truck entering the facility was found to be leaking. The material leaking, sodium hydroxide wastewater, and the contaminated soil (approximately 5 cubic yards total) were removed for treatment.

Due to the low number of resident using groundwater, the lack of surface water use, and the regulated units on-site, a no further action is recommended by the Pre-Remedial Program.

III. DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS

According to the Part B permit application, twelve Hazardous Waste Management Units (HWMUs) have been identified as the following: acid drum storage area, alkaline drum storage area, organic drum storage area, drum staging area, carbon absorption unit, oil/water separator, pretreatment system, chemical treatment unit, and four waste storage tanks. The following Solid Waste Management Units (SWMUs) have been identified from file searches, site representative interviews and the reconnaissance inspection: outside drum storage area 1, former sludge storage pad, outside drum storage area 2, former 10,000 gallon sludge feed tank, special waste storage tank, oil contaminated storage area, 13,000 gallon concrete sludge tank, 7,000 gallon concrete receiving tanks, inside drum storage area, sludge dewatering system, safety-kleen unit, process sewer system, inorganic and organic laboratories, auxiliary basin #3, landfill, former pickle liquor basins, former oil basin, former lime basin, truck unloading pad, former rotary press and mobile filter press (see attachment A and attachment B).

Unit Name: Acid Drum Storage Area (Photo #34 and #42)

Unit Description:

This unit is located inside, on the west end, of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of approximately 754 square feet (29 feet by 26 feet) of floor space for a maximum total capacity of 192-55 gallon drums. The waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16-gallon drums and 5-gallon containers, with the pallets stacked The number of drums stored two high. in this area is dependent on the number and frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until they can be disposed, reclaimed or recovered off-site or used in one of the processes. The concrete floor slopes towards a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). No cracks were visible in the concrete floor or in the trench and no material was observed in the trench. Approximately 85-55 gallon drums, 1-16 gallon drum and 8-5 gallon drums were on-site at the time of the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed:

Acid wastes which include: Non-hazardous lab packs, hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes, graphic arts industry wastes, battery industry wastes, hazardous used oils,

hazardous hospital wastes and nonhazardous used, off specification or surplus oils.

Release Controls:

The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the acid drum storage area and the floor trench combined totals 1,675 gallons.

History of Releases:

There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

> Surface Water: The release potential to surface water is low due to unit design.

> Air: The release potential to air is low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Alkaline Drum Storage Area

(Photo #35 and #42)

Unit Description:

This unit is located inside, on the west end of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of 312 square feet of floor space (12 feet by 26 feet) for a maximum total capacity of 96-55 gallon drums. waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16gallon drums and 5-gallon containers, with the pallets stacked two high. The number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until the waste can be reclaimed, recovered or disposed offsite or used in one of the processes on-site. The concrete floor slopes toward a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. Approximately 74-55 gallon drums, 3-30 gallon drums and 1-5 gallon container were on-site at the time of the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed:

Reactive wastes which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes,

graphic arts industry wastes, battery industry wastes, hazardous used oils, hazardous hospital wastes and non-hazardous used, off specification or surplus oils.

Release Controls:

The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the alkaline drum storage area and the floor trench combined totals 675 gallons.

History of Releases:

There have been no documented releases reported nor have any been observed from this unit.

Conclusions:

<u>Soil/Groundwater:</u> The release potential to the soil/groundwater is low due to unit design.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Organic Drum Storage Area

(Photo #36 and #42)

Unit Description:

This unit is located inside, on the west end of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of 624 square feet of floor space (24 feet by 26 feet) for a maximum total capacity of 192-55 gallon drums. waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16gallon drums and 5-gallon containers, with the pallets stacked two high. number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until the waste can be reclaimed, recovered or disposed offsite or used in one of the processes on-site. The concrete floor slopes toward a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. Approximately 166-55 gallon drums, 3-16 gallon drums and 1-5 gallon container were on-site at the time of the VSI.

Date of Start-up: 1990.

Waste Managed:

Date of Closure: This unit is presently active with no anticipated date of closure.

and a partial date of otopate.

Organic wastes which include: Non-hazardous lab packs, hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes,

photo-processing industry wastes,

graphic arts industry wastes, battery industry wastes, hazardous used oils, hazardous hospital wastes and non-hazardous used, off specification or surplus oils.

Release Controls:

The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the organic drum storage area and the floor trench combined totals 1,350 gallons.

History of Releases:

There have been no documented releases reported nor have any been observed from this unit.

Conclusions:

<u>Soil/Groundwater:</u> The release potential to the soil/groundwater is low due to unit design.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Drum Staging Area

(Photo #37)

Unit Description:

This unit is located inside, on the west end of process building #2 (see Attachment A). The drum staging area, constructed of concrete, consists of 520 square feet of floor space (20 feet by 26 feet) for a maximum total capacity of 72-55 gallon drums. waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16gallon drums and 5-gallon containers, with the pallets stacked one high. The number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area until they can be moved to the proper drum storage area (either alkaline, acid or organic drum storage area). The concrete floor slopes toward a floor trench used to collect any spills or leaks during (The floor trench does not storage. empty into any sumps or pipes, but is used solely for the collection of spills). Any material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. No drums were observed in this area during the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed:

All wastes (acid, reactive or organic) which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photoprocessing industry wastes, graphic arts industry wastes, battery industry wastes, nazardous used oils, hazardous hospital wastes and non-hazardous used,

off specification or surplus oils.

Release Controls:

The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills

collected in the floor trench will be

pumped back into the drums.

Containment capacity for the drum staging area and the floor trench combined totals 1,142 gallons.

History of Releases:

There have been no documented releases reported nor have any been observed from this unit.

Conclusions:

Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Safety-Kleen Unit

(Photo #50)

Unit Description:

This unit is located inside, on the west end, of process building #1 (see Attachment A). The Safety-Kleen unit is typical of most of the degreasing units, with this unit fixed to a 10gallon drum which contains the solvent. The washing basin is approximately two feet long, one foot wide and approximately one foot deep. Once the solvent is used, Safety-Kleen is notified and the drum containing the used solvent is replaced with one containing clean solvent. These drums are replaced approximately every six weeks. The unit was in good condition during the VSI, with no leaks or spills observed on the concrete in this area.

Date of Start-up: 1986.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Waste petroleum naptha.

Release Controls: Any spills from this unit will be

collected in a sump that is pumped into the 13,000 gallon concrete sludge tank

(SWMU #26).

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions: <u>Soil/Groundwater:</u> The release potential to the soil/groundwater is

low due to unit design.

<u>Surface Water:</u> The release potential to surface water is low due to unit

design.

Air: The release potential to air is

low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low

due to unit design.

Unit Name: Process Sewer System

(Photo #27 and #28)

Unit Description: The discharge pipe from Clean Harbors

of Chicago is located in the southwest corner of process building #1 (see Attachment A). The effluent from the

facility is monitored by the

Metropolitan Water Reclamation District of Greater Chicago and by Clean Harbors for a certain set of parameters. No odors were detected from this area

during the VSI.

Date of Start-up: 1982.

Date of Closure: This process sewer system is presently

used by the facility to discharge

wastewater.

Waste Managed: Treated wastewater.

Release Controls: No release controls exist except for

the monitoring of the effluent by the facility and the Metropolitan Water Reclamation District of Greater

Chicago (MWRDGC).

History of Releases: A number of violations have been

documented by the MWRDGC at the point of discharge from the Clean Harbors

facility.

Conclusions: <u>Soil/Groundwater:</u> The release

potential to the soil/groundwater is moderate because the integrity of the

sewer is unknown.

Surface Water: The release potential

to surface water is low due to unit

design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the

generation of subsurface gas is low

due to unit design.

Unit Name: Outside Drum Storage Area 1

(Photo #1)

Unit Description: This unit was located on the north side

of processing building #1 (see

Attachment A). The size of the drum

storage area is unknown, but

approximate measurements during the VSI indicate an area 30 feet by 45 feet. A

photograph from 1982 indicates

approximately 42 drums in this area. The unit apparently stored any type of

waste that could be accepted for

treatment between 1981 and 1984. The contents of the drums were used in one of the facility's processes. The

storage area consisted of a gravel lot with no known secondary containment. No drums were observed in this area during the VSI since this area now

contains two mobile trailers and two

semi rigs.

Date of Start-up: 1981.

This area has not been used since 1984 Date of Closure:

and has not been through closure.

Wastes permitted for acceptance between Waste Managed:

1981 and 1984 include: dusts and sludges from the iron and steel industry, spent pickle liquor, electroplating wastes, wastewater treatment sludges from the chemical

conversion coating of aluminum,

inorganic pigment wastes, metal heat treating wastes, corrosive metal

cleaning washes and stripping baths,

ink formulation wastes, coking operations wastes, waste from the

cleaning and washing of tanks, and nonhazardous wastes from the flushing of coolant systems and related equipment.

Release Controls: There were no known containment

measures implemented at the time of

operation.

History of Releases: A photograph from 1982 indicates some

discolored areas around the drums. No

other releases are known.

Conclusions:

Soil/Groundwater: The past release potential to the soil/groundwater was high because there was no pad underneath the drums. The present release potential is low since the drums have been removed.

Surface Water: The past release potential to surface water was high because drummed material had the potential of flowing off-site into Lake Calumet. The present potential is low since drummed material has been removed.

Air: The past release potential to air is moderate due to the waste stored in this area. The present release potential is low since waste material has been removed.

Subsurface Gas: The past potential for the generation of subsurface gas is high due to the material stored in this area. The present release potential is low since drummed material has been removed.

Unit Name: Former Sludge Storage Pad

(No Photo)

This unit was located outside, just Unit Description:

west of receiving tank #1 (SWMU #31) (see Attachment A). The sludge from the sludge dewatering system was stored in one of two 35 cubic yard trailers that were parked in this area. A pipe from the former rotary filter press (SWMU #34) inside was used to transport the sludge into the trailers. The sludge was then hauled off to one of the landfills permitted to accept the waste. The trailers were placed on a concrete pad that was capable of holding two trailers at a time. The amount of waste kept in this area depended on the amount of waste received by the facility. This area is

currently used by the sludge dewatering system (SWMU #33). No cracks were

observed in the concrete floor.

Date of Start-up: 1981.

Conclusions:

Date of Closure: This area has not been used since 1986

> when the current sludge dewatering (SWMU #33) system began operations.

Concentrated metal hydroxide sludge and Waste Managed:

non-hazardous wastewater treatment

sludge.

The trailers were located on a concrete Release Controls:

pad with no other containment measures.

There are no documented releases History of Releases:

reported or observed from this unit.

<u>Soil/Groundwater:</u> The past release potential to the soil/groundwater was low due to the type of waste managed. The present release potential is low since the pad is no longer in use and

the trailers have been removed.

<u>Surface Water:</u> The past release potential to surface water was low due to unit design. The present potential is low since the pad is no longer in use and the trailers have been removed. <u>Air:</u> The past and present release potential to air was low due to the type of waste managed.

<u>Subsurface Gas:</u> The past and present potential for the generation of subsurface gas is low due to the type of waste managed.

Unit Name: Outside Drum Storage Area 2

(Photo #9)

Unit Description: This unit was located on the east side

of receiving pit #4 (SWMU #31), on the south side of process building #1 (see Attachment A). The size of the drum

storage area is unknown, but approximate measurements indicate the area to be 16 feet by 28 feet. The unit stored any type of waste that could be accepted for treatment, with the contents of the drums used in the facility's processes. The storage area consisted of a concrete pad, with a collection sump located on the west side of the pad. Spills would be collected in the sump then pumped into one of the receiving tanks (SWMU #31). No drums were observed in this area during the VSI. Some cracks were

Date of Start-up: 1984.

Date of Closure: This unit has not been used since the

new storage areas inside process
building #2 began operating in 1990.

observed in the concrete, but no evidence of spills were found.

Waste Managed: Wastes permitted for treatment between

1984 and 1990 include: spent pickle liquor from metal finishing operations, corrosive metal cleaning washes and baths, waste from the washing and cleaning of tanks and equipment, non-hazardous wastes from the flushing of coolant systems and non-hazardous wastewater from cleaning tanks, floors

and equipment.

Release Controls: A 225 gallon collection sump was on the

west side of the storage pad to collect

any spills or leaks. No other containment measures existed.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: <u>Soil/Groundwater:</u> The past release

potential to the soil/groundwater was

moderate due to the cracks in the concrete and the wastes managed. The present release to the soil/groundwater is low since wastes are no longer stored in this area.

<u>Surface Water:</u> The past release potential to surface water was low due to unit design. The present release potential is low since wastes are no longer stored in this area.

Air: The past release potential to air was moderate due to the types of waste stored in this area. The present release potential to air is low since the wastes are no longer stored in this area.

<u>Subsurface Gas:</u> The past potential for the generation of subsurface gas was moderate due to the nature of the waste managed. The present release potential is low since the wastes are no longer stored in this area.

Unit Name: Carbon Absorption Unit

(Photo #32 and #33)

Unit Description:

This unit is inside a concrete building, which is located between the tank farm and process building #1, (see Attachment A). This unit includes a two ton activated carbon system, condenser, water separator, preheater, and a 700 cfm blower. Air from receiving tanks 1 (SWMU #27), 2 (SWMU #28), 4 (SWMU #30) and the oil/water separator (SWMU #13) is preheated, with the resulting condensate is pumped to the sludge tank (SWMU #26). air from the preheater and water from the process water supply are then pumped into the activated carbon system, along with steam from two steam generators. The resulting steam from the activated carbon system flows into the condenser, while air from the carbon system is expelled to the atmosphere (per IEPA Air Pollution permit). Liquid from the condenser then flows into the water separator, while the water from the condenser flows back into the process water supply system. The water separator produces water, which is pumped to the receiving tanks (SWMU #31) and a solvent, which is drummed. The system is located in a brick building that has a floor sump to collect any spills. cracks were observed in the concrete floor or in the concrete block walls. The floor sump was not observed during the VSI.

Date of Start-up: 1985.

Date of Closure: This unit is presently active with no

anticipated date for closure.

Waste Managed: Waste flammable liquid (DOO1).

Release Controls: The carbon absorption unit is inside

a concrete building sitting on a concrete floor. The building contains a floor sump that is used to collect any spills. The spills are then pumped into one of the receiving tanks (SWMU

#31). No visible cracks were observed in the concrete floor or walls of the building. The sump was located behind the unit and could not be observed.

History of Releases:

There are no documented releases reported or observed from this unit.

Conclusions:

<u>Soil/Groundwater:</u> The release potential to the soil/groundwater is moderate since the integrity of the floor sump is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design and is regulated by IEPA's Air Pollution Division.

<u>Subsurface Gas:</u> The release potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU Nos. 11 and 12

Unit Name: SWMU #11 - Inorganic Laboratory

SWMU #12 - Organic Laboratory

(Photo #21, #22 and #23)

Unit Description:

These units are located inside, on the east end, of process building #1 (see Attachment A). The organic lab is in the northeast part of process building #1, while the inorganic lab is in the southeast portion. The waste is first brought into the inorganic lab for a "finger print" analysis. If organic constituents are suspected, the sample is taken into the organic lab. After analysis, the waste is dumped into one of the receiving tanks (SWMU #31). labs generate approximately 10 gallons of waste methylene chloride per month, which is drummed and stored in the inside drum storage area (SWMU #36). The inorganic lab generates waste material from the analysis of incoming wastes and is collected in three gallon plastic containers. These containers, when almost full, are emptied into one of the receiving tanks (SWMU #31). inorganic lab also has a five shelf cabinet that is used to store waste material until an analysis can be completed. During the VSI, all containers on the shelves appeared to be in good condition with no apparent leaks. The floors in the labs are tiled with some spillage observed during the VSI.

Date of Start-up: The inorganic lab began in 1981, while

the organic lab began in 1990.

Date of Closure: These units are presently active with

no anticipated date of closure.

Waste Managed: Liquid and solid wastes from Clean

Harbors, customers.

Release Controls: These labs are located inside of

process building #1. All wastes are containerized and all sink and floor drains in the inorganic lab empty into the sludge tank (SWMU #26). The one sink in the organic lab empties into a five gallon container that is disposed

along with the methylene chloride in drums (SWMU #36).

History of Releases:

There have been no documented releases reported nor have any been observed from this unit.

Conclusions:

Soil/Groundwater: The release potential to the soil/groundwater is high in the inorganic lab since the integrity of the floor and sink drains are unknown. The release potential to the soil/groundwater in the organic lab is low due to unit design.

<u>Surface Water:</u> The release potential to surface water from both labs is low due to unit design.

<u>Air:</u> The release potential to air from both labs is low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas from both labs is low due to unit design.

Unit Name: Oil/Water Separator

(Photo #45)

Unit Description:

This unit is located inside, on the north end of process building #1 (see Attachment A). This unit includes two 6,000 gallon reactor tanks, one 6,000 gallon oil collection tank, one 6,000 gallon cuff collection tank, 500 gpm receiving pump, 1.5 million BTU steam generator, 300 gpm receiving/ recirculating pump and a 100 gpm transfer pump. Oil and grease contaminated wastes are pumped from one of the concrete receiving tanks (SWMU #31) into one of the 6,000 gallon reactor vessels. Oil and aqueous separation is achieved by adjusting the pH to 2, heating the material to 104 F with steam and adding demulsifying agents. The water is decanted to the mix tank for primary treatment and the oil is pumped to the oil collection tank and the cuff is pumped to the cuff collection tank. The oil and cuff are shipped of-site to Breslube (E. Chicago, IN) or Systech (Greencastle, IN.) for recycling. All four tanks are vented to the carbon absorption system (SWMU #10). The tanks are constructed of carbon steel, with a one inch thick polyurethane foam interior liner. tanks are on a concrete floor with a one foot high concrete curb surrounding the tank area. The tank containment system has a sump that pumps any material from spills or leaks into one of the reactor tanks. The concrete floor and curbing were in good condition, with no cracks observed during the VSI. A few spills were observed within the containment area. The tanks contained the following amounts during the VSI: reactor tank 1-4,000 gallons, reactor tank 2-4,500 gallons and the oil collection tank and the cuff collection tank both contained less than 1,000 gallons.

Date of Start-up: 1984.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Non-hazardous water contaminated with

oils or coolants.

Release Controls: The tanks are located within a one foot

high concrete curb that has a

containment capacity of 1,660 gallons. A sump is located in the containment system to collect any material and pump it back into one of the reactor tanks.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: Soil/Groundwater: The release

potential to the soil/groundwater is high since the integrity of the sump is

unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit

design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the

generation of subsurface gas is low

due to unit design.

Unit Name: Former 10,000 Gallon Sludge Feed Tank

(Photo #54)

Unit Description:

This unit was located inside, on the north end of process building #1 (see Attachment A). The 10,000 gallon steel tank was used for the temporary storage of sludge until the sludge could be pumped to the former rotary filter press (SWMU #34). The tank was located on a concrete floor, near a floor drain. The material that was collected in this floor drain was pumped into the sludge tank (SWMU #26). This tank no longer exists in this area, but the concrete appeared to be in good condition.

Date of Start-up: 1981.

Date of Closure: This tank has not been used since 1986

when the present system (SWMU #33)

began.

Waste Managed: Concentrated metal hydroxide sludge and

non-hazardous wastewater treatment

sludge.

Release Controls: A nearby floor drain was used to

collect any spills or leaks from the tank. The floor drain flows into the

13,000 gallon sludge tank (SWMU #26).

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: Soil/Groundwater: The past release

potential to the soil/groundwater was moderate since the integrity of the floor drain is unknown. The present release is low since wastes are no

longer managed in this area.

<u>Surface Water:</u> The past and present release potential to surface water is

low due to unit design.

Air: The past and present release potential to air is low due to unit

design.

Subsurface Gas: The past and present release potential for the generation of subsurface gas is low due to unit design.

Unit Name: Auxiliary Basin #3

(Photo #18)

Unit Description: This unit was located southwest of the

present tank farm (SWMU #27-#30) (see Attachment B). This unit was used by Hyon Services, Inc. (also known as

International Hydronics Corporation and

Envirotherm) for the storage of wastewater, stormwater, incinerator

scrubber water and partially

neutralized pickle liquor. The basin also received some oily material which was found during a 1973 inspection at the site. The basin had a capacity of five million gallons and was kept full to capacity. The basin was filled in sometime between 1979 and 1981. fill material used has not been

determined, but may have been from the neutralizing of pickle liquor. basin is now covered with weeds and

other types of brushy material.

Date of Start-up: 1973.

This unit has not been used since 1979. Date of Closure:

Stormwater, wastewater, scrubber water Waste Managed: from the Hyon incinerator and partially

neutralized pickle liquor.

The basin was constructed below the Release Controls:

> adjacent road grade to allow for adequate freeboard. No other containment measures are known.

History of Releases: There have been no documented releases

> reported nor have any been observed from this unit. However, the levels in the basin have risen to within eight

inches of the top.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was

high due to the possibility of an inadequate liner. The present release potential is high since contaminants

may still be present.

<u>Surface Water:</u> The past release potential to surface water was high due to the proximity of the lake from the basin. The present release potential is low since the basin is covered.

Air: The past release potential to air was high due to the types of materials that may have been stored in the basin. The present release potential is low since the basin is covered.

<u>Subsurface Gas:</u> The past and present potential for the generation of subsurface gas is since the basin is covered.

Unit Name: Landfill (Photo #20)

Unit Description:

This unit was located on the west end of the pier, just west of the auxiliary basin (SWMU #15) (see Attachment B). This area was used to construct the west end of the pier and also dispose of the neutralized pickle liquor sludge. Supposedly the sludge was not disposed near the lake edge, but air photos indicate piles near the edge of the lake. The landfill is now covered by three to four feet high weeds and brush used by sea gulls for nesting.

Date of Start-up: Early 1970's.

Date of Closure: This unit has not been used since 1980.

Waste Managed: Stabilized acid-lime sludge.

Release Controls: No known release controls existed during the landfilling of wastes.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions:

<u>Soil/Groundwater:</u> The past release potential to the soil/groundwater was high due to the lack of containment. The present release potential is moderate since the material is still present.

Surface Water: The past release potential to surface water was high due to the lack of containment. The present release potential is moderate since the material may not been entirely covered.

Air: The past and present release potential to air is low due to the type design.

<u>Subsurface Gas:</u> The past and present release potential for the generation of subsurface gas is low due to the types of waste managed.

Unit Name: Temporary Pickle Liquor Basins

(No Photo Available)

Unit Description: These units were located on the east

part of the pier, just east of
auxiliary basin #3 (SWMU #15) (see Attachment B). The two temporary pickle liquor basins were used to neutralize pickle liquor (composed of sulfuric acid and iron sulfate) with lime, resulting in calcium sulfate and iron oxide. The approximate dimensions of the two basins were reported to be 300 feet by 50 feet by 6 feet deep. The basin depth was actually 8 feet deep, but a two foot freeboard was required during operation. anticipated capacity of each basin was estimated at 500,000 gallons. resulting sludge from the basins was used for fill in the area west of the auxiliary basin (SWMU #15). This area is now part of the tank farm (SWMU #27-#30).

Date of Start-up: 1973.

Date of Closure: This unit has not been used since 1973.

Waste Managed: Pickle liquor.

Release Controls: A two foot freeboard was required

around the basins, but may have been breached. No known liner exists for

either basin.

History of Releases: There have been no documented releases

reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was

high due to the types of waste managed and the lack of secondary containment. The present release potential is

moderate since wastes may still be in

this area.

<u>Surface Water:</u> The past release potential to surface water was high due to the types of waste managed and the lack of secondary containment. The present release potential is low since

the basins have been covered.

Air: The past release potential to air was moderate due to the possibility of other wastes disposed in the basins. The present release potential is low since the basins are now covered.

<u>Subsurface Gas:</u> The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit Name: Old Pickle Liquor Disposal Sites

(Photo #15)

Unit Description: This unit was located on the east side

of the facility, just west of the

current access road (see Attachment B). This area was used to neutralize pickle liquor with lime resulting in calcium

sulfate and iron oxide. The

approximate area used was 350 feet by 275 feet with the depth unknown. The area is now seeded with grass and currently not used by Clean Harbors.

Date of Start-up: 1972.

Date of Closure: This area has not been used since 1973.

Waste Managed: Pickle liquor.

Release Controls: There were no known containment

measures implemented at the time of

operation.

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions: Soil/Groundwater: T

Soil/Groundwater: The past release potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since wastes may still be in this area.

Surface Water: The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area is now covered.

Air: The past release potential to air was moderate since the exact type of wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit Name: Permanent Pickle Liquor Basins

(Photo #15 and #16)

Unit Description: These units were located on the east

end of the pier, just west of the old pickle liquor disposal sits (SWMU #18) (see Attachment B). These permanent pickle liquor basins were used to neutralize pickle liquor with lime, resulting in calcium sulfate and iron oxide. The basins were constructed with a lime liner to an unspecified The dimensions are unknown, but depth. inspections indicate that basins may have been 150 feet by 30 feet. daily receipts for pickle liquor averaged between 4,500 gallon and 50,000 gallons. The resulting sludge from the basins was used for roads or placed in the landfill (SWMU #16) on the west end of the pier. The site office trailer is now located on this

part of the site.

Date of Start-up: 1973.

Date of Closure: This area has not been used since 1979.

Waste Managed: Pickle liquor.

Release Controls: There were no known containment

measures implemented at the time of

operation.

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release

potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since

wastes may still be in this area.

<u>Surface Water:</u> The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area

is now covered.

Air: The past release potential to air
was moderate since the exact type of

wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit Name: Oil Basin

(Photo #16 and #17)

Unit Description:

This unit was located on the east side of the temporary pickle liquor basins (SWMU #17) (see Attachment B). The oil basin was used to store an oil/water mixture from a Mobil Oil (Joliet, IL) spill. The oil basin, lined with lime, was approximately 250 feet (on a side) square. A two foot above road grade berm was intact on all sides except one, where the berm in that area was near road grade level. In 1973, a majority of the basin was filled in leaving only a 50 foot by 50 foot basin. The oil left in this basin was apparently used for road application.

Date of Start-up: 1972.

Date of Closure: The last time this unit was used is

unknown.

Waste Managed: Oil/water mixture.

Release Controls: There were no known containment

measures implemented at the time of

operation.

History of Releases: A 1973 report indicates some oil from

the oil basin area had been discharged

into Lake Calumet.

Conclusions: Soil/Groundwater: The past release

potential to the soil/groundwater was high due to the lack of secondary containment. The present release potential is moderate since the waste may still be in this area.

Surface Water: The past release potential to surface water was high since contaminants were documented in Lake Calumet. The present release potential is low since the basin is covered.

<u>Air:</u> The past release potential to air was moderate since the type of wastes is unknown. The present release potential is low since the basin is

covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit Name: Lime Basin

(Photo #17)

Unit Description: This unit was located on the east side

of the pier, just east of the north of the oil basin (see Attachment B). This area is currently used as an access road into the site. The lime basin was used for the storage of lime, which was added to the pickle liquor solutions. The basin was also used at least once for the storage of pickle liquor.

dimensions of this unit are unknown.

Date of Start-up: 1973.

Conclusions:

Date of Closure: The last time this unit was used is

unknown.

Lime and pickle liquor. Waste Managed:

Release Controls: There were no known containment

measures implemented at the time of

operation.

History of Releases: There are no documented releases

reported or observed from this unit.

<u>Soil/Groundwater:</u> The past release potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since wastes may still be in this area.

<u>Surface Water:</u> The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area is now covered.

Air: The past release potential to air was moderate since the exact type of wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit Name: Chemical Reduction/Oxidation

Pretreatment System

(Photo #29, #46 and #47)

Unit Description:

This unit is located on the west side of Process building #1, just south of the oil/water separator (SWMU #13) (see Attachment A). This unit includes the following equipment: three mixers with axial flow turbines, one reactor vessel with three compartments, 350 gpm recycle and transfer pump, inorganic lab pack pour-off station, 3000 cfm exhaust blower, two scrubbers, two 40 gpm recirculating pumps, two overflow collection tanks, 2000 cfm blower, 20 gpm transfer pump and one overflow transfer pump. Wastes from the receiving tanks, the inorganic lab pack pour-off station or the portable drum pumping station are pumped into the three compartment pretreatment reactor. The acid wastes are neutralized using sodium hydroxide or lime slurry, while alkaline wastes are neutralized with sulfuric acid, aluminum sulfate or ferric chloride. Some wastes need to be oxidized using hydrogen peroxide and potassium permanganate and reducing agents such as sodium bisulfite and sulfur dioxide are used for hexavalent chromium. Ammonia wastes are pH adjusted to high pH levels so the ammonia can freely release or can be stripped in the air scrubbers. The waste after it is pretreated is pumped into the mix tank for primary treatment or into the sludge tank (SWMU #26). This unit is inside process building #1, on a concrete floor. The 13,000 gallon sludge tank (SWMU #26) is located nearby to collect any spills. Scrubbers are associated with this unit to control any emissions from the pretreatment reactors. No spills were observed in this area during the VSI, but the concrete around the base of the reactor had deteriorated and a few cracks were observed.

Date of Start-up:

The inorganic lab pack pour-off station began in 1990, the two scrubbers in

1987 and the rest of this unit began operations in 1981.

Date of Closure:

This unit is presently active with no anticipated date for closure.

Waste Managed:

Any waste that can be accepted for treatment which includes: spent pickle, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous waste from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline or acid solutions.

Release Controls:

The pretreatment system is contained on a concrete floor with the sludge tank (SWMU #26) nearby to collect any spills.

History of Releases:

There was a possibly release of acid fumes from this unit in 1986. Details of this incident are unknown.

Conclusions:

<u>Soil/Groundwater:</u> The release potential to the soil/groundwater is moderate due to the cracks in the concrete and the deteriorated condition of the concrete.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design and is regulated by IEPA's Air Pollution Division.

<u>Subsurface Gas:</u> The release potential for the generation of subsurface gas is low due to unit design.

Unit Name: Special Waste Storage Tank (Photo #48, #53 and #54)

Unit Description: This unit is located inside, on the

southwest end of process building #1
(see Attachment A). The special waste

storage tank is constructed of

stainless steel, 14 feet high and a diameter of 8 feet. The total capacity of the tank is 5,000 gallons. The tank is used to store ammonium sulfate that is pumped from the acid scrubber (SWMU #22). The ammonium sulfate is then pumped into tank #1 (SWMU #27) for treatment. The tank is on a concrete floor, with the sludge tank (SWMU #26) nearby to collect any spills or leaks. No cracks were observed in the concrete

during the VSI.

Date of Start-up: 1987.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Ammonium sulfate.

Release Controls: The tank is on a concrete floor with

the 13,000 gallon sludge tank (SWMU #26) nearby to collect any spills or

leaks.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: <u>Soil/Groundwater:</u> The release

potential to the soil/groundwater is

low due to unit design.

Surface Water: The release potential

to surface water is low due to unit

design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the

generation of subsurface gas is low

due to unit design.

Unit Name: Oil Contaminated Soil Storage Area

(Photo #10)

Unit Description: This unit is located outside, on the

southeast part of the site (see

Attachment A). This area was used as an emergency storage area for three 20 cubic yard roll-off boxes full of oil

contaminated soil and clean-up

equipment. The dumpsters were placed in a 50 foot by 20 foot gravel area.

The dumpsters were in this area

approximately one month, prior to offsite disposal. The gravel did not have any visible stains and no soil was observed in this area during the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Oil contaminated soil and equipment.

Release Controls: The containers are stored on a gravel

lot with no other secondary containment

measures.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: <u>Soil/Groundwater:</u> The release

potential to the soil/groundwater is

moderate due to the lack of

containment.

Surface Water: The release potential

to surface water is moderate due to the

lack of containment.

Air: The release potential to air is

low due to the type of waste managed.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to the type of waste managed.

Unit Name: Chemical Treatment Unit

(Photo #24, #26, #49, #52 and #53)

Unit description:

This unit is located inside, on the south part of process building #1 (see Attachment A). This unit includes the following equipment: two 150 gpm treatment feed pumps, ultrasonic flow meter, four chamber chemical treatment unit, flow distribution center, four gravitators (clarifiers), secondary clarifier, 200 gpm effluent transfer pump, clarifier collection tank, 150 qpm secondary treatment feed pump, two 3000 gallon mixing tanks and a 850 gallon flocculator tank. Waste is received in the chemical treatment unit from either tank #2 (SWMU #28) or tank #4 (SWMU #30). The waste is received in the first chamber, where sodium hydroxide or lime slurry is used to precipitate out metal hydroxides. waste then gravity flows into the other three chambers to be mixed with the following chemicals: second chamberaluminum sulfate, third chamber-sodium sulfide and the fourth chamber- various polymers. The solids are pumped into the 13,000 gallon sludge tank (SWMU #26) and the clarified effluent flows into a collection tank. When the collection tank is full, the effluent goes through a secondary treatment process by which additional solids settle out. These solids are also pumped into the sludge tank (SWMU #26) and the clarified effluent is pumped into tank #1 (SWMU #27) for discharge into the process sewer system (SWMU) All tanks and associated pipes are in good condition with no evidence of spills or leaks. The 13,000 gallon sludge tank collects all spills and leaks from these tanks. The concrete was in good condition and no cracks were observed in this area during the Approximately 10,000 gallons were present in the unit at the time of the VSI.

Date of Start-up:

The chemical treatment unit began in 1981 and the secondary treatment unit

began in 1988.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Waste accepted for treatment which

includes: spent pickle liquor,

corrosive metal cleaning washes and stripping baths, non-hazardous sludges

for dewatering, non-hazardous

wastewater from cleaning tanks, nonhazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: These units are located on a concrete floor that slopes toward the 13,000 gallon sludge tank (SWMU #26).

other containment measures are known.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

Conclusions: Soil/Groundwater: The release

potential to the soil/groundwater is

low due to unit design.

Surface Water: The release potential to surface water is low due to unit

design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low

due to unit design.

Unit Name: 13,000 Gallon Concrete Sludge Tank (Photo #30)

Unit Description:

This unit is located inside, on the southwest part of process building #1 (see Attachment A). This unit includes one 13,000 gallon in-ground lined concrete tank and one 100 gpm sludge transfer pump. Solids from the chemical treatment unit (SWMU #25), the pretreatment system (SWMU #22) and wastes from the inorganic lab (SWMU #11) (from the sinks and drains) are pumped into the tank. The contents of the 13,000 gallon sludge tank are pumped into tank #3 (SWMU #29) for further settling. The tank is constructed of 8 inch concrete with a pvc liner. The amount of waste present in the tank at the time of the VSI was 10,000 gallons.

Date of Start-up: 1981.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Waste from the treatment unit, pretreatment unit, floor drains, wash water, pump seal water and lab drains.

Release Controls: The tank is constructed of 8 inch thick concrete, with a pvc liner. A pipe is located near the bottom of the tank to transfer the waste into tank #3 (SWMU #29).

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is high since the integrity of in ground tank and underground piping is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU Nos. 27-30

Unit Name: Hazardous and Solid Waste Storage Tanks
(Photo #2, #3, #4, #5, #6 and #7)

Unit : cription:

The hazardous and solid waste storage tanks are located outside on the west side of process building #1 (see Attachment A). The four tanks are closed top (fixed roof) steel construction. The tanks have an inner surface coating consisting of a coal tar base epoxy coating, one coat carbomastic #3 primer and one coat carbomastic #14 finish. The external portions of the tanks are painted with epoxy paint. The tanks are supported by 12 inch thick reinforced concrete foundations and the areas within the foundations are lined with a pvc liner. The four tanks are located within a diked area (having a total capacity of 465,000 gallons) that is also lined with a pvc liner. The side of the diked area has two concrete in ground sumps to collect any spills and rainwater. The sumps pump the material back into the tanks or into the concrete receiving tanks. (SWMU #27) has a total capacity of 188,500 gallons and is used for the storage of process effluent. effluent pumped from the treatment unit (SWMU #25) is stored in this tank prior to discharge into the process sewer system (SWMU #6). Tank 1 contained approximately 25,000 gallons on the day of the VSI. Tank #2 (SWMU #28) has a total capacity of 212,000 gallons and is used as a primary settling tank. Wastes from the concrete receiving tanks (SWMU #31) are pumped into this tank for initial settling purposes. The solids that settle out are pumped into tank #3 (SWMU #29) and the remaining material is pumped into tank #4 (SWMU #30). Tank #2 contained approximately 180,000 gallons on the day of the VSI. Tank #3 (SWMU #29) has a total capacity of 212,000 gallons and is used to store unconcentrated solids. The material is stored in this tank until the sludge can be pumped to the sludge dewatering system (SWMU #33) or

the liquid can be pumped back into one of the receiving tanks (SWMU #31). Tank #3 contained approximately 195,000 gallons on the day of the VSI. Tank #4 (SWMU #30) has a capacity of 424,000 gallons and is used in conjunction with tank #2 (SWMU #28). Liquid waste material is stored in this tank until it can be pumped into the chemical treatment system (SWMU #25) and the solid material is pumped into tank #3 (SWMU #29). Tank #4 contained approximately 320,000 gallons on the day of the VSI. The dike area was in good condition and no evidence of spills or leaks was observed during the VSI.

Date of Start-up: All tanks were constructed in 1981.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Tanks #2 (SWMU #28) and Tank #4 (SWMU #30) store any waste that can be accepted for treatment which includes: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions. Tank #1 (SWMU #27) stores treated effluent and tank #3 (SWMU #29)

stores treated waste material.

Release Controls: Any spills from these tanks will be collected in one of two in ground concrete sumps or contained within the dike until it can be pumped back into one of the tanks. The dike area has a gravel bottom with a pvc liner

underneath.

History of Releases: In 1985, 100,000 gallons of concentrated sludge was released from a pipe connected to tank #3 (SWMU #29). The sludge was contained within the diked area and was eventually pumped back into tank #3.

Conclusions:

Soil/Groundwater: The release potential to the soil/groundwater is moderate since the integrity of the in-ground sumps are unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is low due to unit design.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: 7,000 Gallon Concrete Receiving Tanks

(Photo #9, #11, #13 and #25)

Unit Description: This unit is located on the south side

of process building #1 (see Attachment A). This unit consists of four 7,000 gallon in-ground concrete receiving tanks, a 225 gallon collection sump, a 50 gpm sump pump and four 500 gpm receiving pumps. Waste is off-loaded

into one of the four receiving tanks,

after an analysis of the waste determines the appropriate treatment

determines the appropriate treatment process. The waste in the receiving tanks is pumped into tank #2 (SWMU #28) or tank #4 (SWMU #30) prior to treatment or to the oil/water separator system (SWMU #13). No cracks were

observed in the concrete receiving tanks during the VSI because the tanks contained waste material (receiving tank 1 - 4,500 gallons, receiving tank 2 - 2,000 gallons and receiving tanks 3 and 4 had 2,500 gallons each). A 225 gallon sump collects spills and was full of material at the time of the

VSI.

Date of Start-up: 1981.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Waste accepted for treatment which

includes: spent pickle liquor,

corrosive metal cleaning washes and stripping baths, non-hazardous sludges

for dewatering, non-hazardous

wastewater from cleaning tanks, nonhazardous wastes from the flushing of

coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: A 225 gallon collection sump collects any spills from off-loading and pumps the material back into the receiving

tanks. The treatment operator

periodically checks the level of waste in each receiving tank. The receiving tanks also have a pvc liner underneath and are emptied monthly so they can be inspected.

History of Releases:

On November 8, 1983 and July 13, 1987 emissions were observed coming from one of the four receiving tanks. The load on November 8 was off-loaded after diluting the load with water to deter gas fumes and the July 13 load was returned to the generator. No injuries or damage were reported from either incident.

Conclusions:

<u>Soil/Groundwater:</u> The release potential to the soil/groundwater is high because the integrity of the collection sump is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is moderate due to past incidents from off-loading and the lack of an overhead structure to contain any fume releases.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Truck Unloading Pad (Photo #9 and #12)

Unit Description: This unit is located on the south side

of processing building #1, just south of the receiving tanks (see Attachment A). The incoming tank trucks are

parked on a concrete pad measuring 48

feet long by 36 feet wide. The concrete pad slopes down toward the receiving tanks (SWMU #31), where a 225

gallon collection sump is located. The spills collected in the sump (along with any rainwater) are pumped back into one of the four receiving tanks. The pad did not have any curbing around

the outer edges of the concrete, with a few cracks observed in the concrete pad. During the VSI, the sump was full

material and could not be examined.

Date of Start-up: 1981.

Date of Closure: This unit is currently active with no

anticipated date for closure.

Waste Managed: Waste accepted for treatment which

includes: spent pickle liquor,

corrosive metal cleaning washes and stripping baths, non-hazardous sludges

for dewatering, non-hazardous

wastewater from cleaning tanks, nonhazardous wastes from the flushing of coolant systems, battery industry waste

and the waste from the washing and

cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: A 225 gallon collection sump collects

any spills and rainwater from the

unloading pad. The material collected is pumped back into one of the

receiving tanks (SWMU #31).

History of Releases: During the November 8, 1983

sulfuric/nitric acid incident at the plant, a small amount of acid was spilled on the pad. The pad was rinsed, with the contaminants flushed

into the collection sump.

Conclusions: Soil/Groundwater: The release

potential to the soil/groundwater is high due to cracks in the unloading pad and since the integrity of the collection sump is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is moderate due to the past releases from off-loading trucks.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to unit design.

Unit Name: Sludge Dewatering System

(Photo #38, #39, #40, #41, #43 and #44)

Unit Description: This unit is located inside on the east

end of process building #2 (see
Attachment A). The equipment

associated with this unit includes: a steel 10,000 gallon sludge conditioning tank, two filter feed pumps, two 500 gallon lime slurry tanks, a 200 gpm lime slurry feed tank, a 400 cfm

lime slurry feed tank, a 400 cfm blower, baghouse and a 120 cubic foot recessed chamber pressure filter. Sludge from the 13,000 gallon tank (SWMU #26) is pumped into the sludge conditioning tank where lime slurry and polymers are added. The sludge is then

pumped to the frame filter press for solidification. Solids from the filter press drop into a 35 cubic yard trailer that is stationed below the filter press. Spills from the tank area of

this process are collected in a sump that is pumped back into the 13.00 gallon tank (SWMU 26). The same from the filter pross, when spanded, is shoveled up and dumped into the

trailer. No spills or cracks in the concrete were observed during the VSI.

The 35 cubic yard trailer was approximately half full of sludge.

Date of Start-up: 1986.

Date of Closure: This area is presently active with no

anticipated date for closure.

Waste Managed: Concentrated metal hydroxide sludge and

non-hazardous wastewater treatment

sludge.

Release Controls: Any spills from the tanks will be

collected in a sump and will be pumped back into the 13,000 gallon tank (SWMU #26). The entire area of the sludge dewatering system is on a concrete floor with curbing to hold spills in

the sump area.

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions:

Soil/Groundwater: The release potential to the soil/groundwater is moderate since the integrity of the sump is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design.

<u>Air:</u> The release potential to air is low due to the type of waste managed.

<u>Subsurface Gas:</u> The potential for the generation of subsurface gas is low due to the type of waste managed.

Unit Name: Former Rotary Filter Press Area

(Photo #27, #28 and #53)

Unit Description: This unit was located inside on the

southwest side of process building #1, in the area now occupied by the process sewer system (SWMU #6) (see Attachment The sludge was pumped into the sludge concentrator, with the settled solids from this tank pumped into the

filter press. The filter press

produced a sludge that contained 30 to

40 percent solids by weight. sludge was then discharged into one of two 20 cubic yard trailers placed outside on the former sludge storage pad (SWMU #8). The supernatant from the sludge concentrator was pumped back

through the treatment cycle. The

filter press was located on a concrete floor, with the 13,000 gallon in-ground

tank (SWMU #26) near to handle any spills. No cracks in the concrete floor were observed during the VSI.

Date of Start-up: 1981.

Conclusions:

Date of Closure: This unit has not been used since the

new filter press began operating in

1986.

Waste Managed: Concentrated metal hydroxide sludge and

non-hazardous wastewater treatment

sludge.

Release Controls: The 13,000 gallon tank (SWMU #26)

collected any spills from the filter

press area.

History of Releases: There have been no documented releases

reported nor have any been observed

from this unit.

<u>Soil/Groundwater:</u> The past release potential to the soil/groundwater was low due to unit design. The present release to the soil/groundwater is low since this process no longer exists in

this area.

<u>Surface Water:</u> The past release

potential to surface water was low due

to unit design. The present release potential is low since this process no longer exists in this area.

Air: The past release potential to air was low due to unit design. The present release potential to air is low since this process no longer exists in this area.

<u>Subsurface Gas:</u> The past potential for the generation of subsurface gas was low due to the nature of the waste managed. The present release potential is low since this process no longer exists in this area.

Unit Name: Mobile Filter Press (Photo #8 and #12)

Unit Description: This unit is located on the southeast

side of process building #2, on the west side of the truck unloading pad (SWMU #23) (see Attachment A). The mobile filter press is only used when the sludge dewatering system (SWMU #33) can not handle the load of material to

be processed. Concentrated metal hydroxide sludge from the sludge

concentrator (SWMU #33) is pumped into the filter press. The sludge, pumped into the chambers, is dewatered then

discharged into a 35 cubic yard trailer. The sludge is hauled to

Winthrop Harbor where it is landfilled. The mobile filter press is located outside on the truck unloading pad

(SWMU #23) and the gravel lot. No visible spills or cracks in the

concrete around the mobile filter press were observed during the VSI. The filter press apparently moves from site to site (Clean Harbor facilities only), but remains primarily at the Chicago

plant.

Date of Start-up: 1986.

Date of Closure: This unit is presently active with no

anticipated date for closure.

Waste Managed: Concentrated metal hydroxide sludge and

non-hazardous wastewater treatment

sludge.

Release Controls: A collection sump is located at the

north end of the truck unloading pad (SWMU #23) to collect any spills. A metal box underneath the conveyor belt will collect any sludge falling off the

belt. There is no containment underneath the gravel lot.

underneach the graver fot.

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions: <u>Soil/Groundwater</u>: The release

potential to the soil/groundwater is low due to unit design and type of

waste managed.

<u>Surface Water:</u> The release potential to surface water is low due to unit design and type of waste managed.

<u>Air:</u> The release potential to air is low due to unit design and type of waste managed.

<u>Subsurface Gas:</u> The release potential for the generation of subsurface gas is low due to unit design and type of waste managed.

Unit Name: Inside Drum Storage Area

(Photo #31)

Unit Description: This unit is located on the west side

of process building #1, just east of the tank farm (see Attachment A). This area is used for the storage of waste flammable liquid (D001) from the carbon

absorption unit (SWMU #10) and laboratory wastes. The waste, in drums, is transported to the Clean

Harbors facility in Baintree,

Massachusetts for reclamation. The frequency of shipments to the Baintree facility is dependent on the amount of waste collected in this area. The waste is stored in 55-gallon drums, inside a building, on a concrete floor

with a floor sump used to collect spills. Any material collected in the floor sump is pumped back into the receiving tanks (SWMU #31). No cracks were observed in the concrete and no cracks or material was observed in the floor sump. Three drums, all in good condition, were in this area during the

VSI.

Date of Start-up: 1985.

Date of Closure: This unit is presently active with no

anticipated date for closure.

Waste Managed: Waste flammable liquid (D001) and

laboratory waste.

Release Controls: The drum storage area is located inside

a concrete building with concrete floors and walls. The building

contains a floor sump that is used to collect spills. Any spills collected would then be pumped back into the receiving tanks (SWMU #31). No visible

cracks were observed in the concrete

floor or walls of the building.

History of Releases: There are no documented releases

reported or observed from this unit.

Conclusions: <u>Soil/Groundwater:</u> The release

potential to the soil/groundwater is high since the integrity of the floor

sump is unknown.

<u>Surface Water:</u> The release potential to surface water is low due to unit design and secondary containment.

<u>Air:</u> The release potential to air is low due to unit design.

<u>Subsurface Gas:</u> The release potential for the generation of subsurface gas is low due to unit design and secondary containment.

TABLE & SUMMARY OF ON-SITE TANKS

| SWMU NO. | TANK NO. | <u>DESCRIPTION</u> | DESIGN CAPACITY (GALLONS) | OPERATING CAPACITY (GALLONS) | | EAR IILT | PRIMARY <u>USE</u> |
|-------------|-------------|---------------------------------|---------------------------------|------------------------------------|---------------------|-------------|---|
| ځ | 42 | Effluent collection tank | 1050 | 900 | Carbon steel | 1987 | Surge tank for the sewer discharge |
| 13 - | 59 | imo reactor vessels | 5000 | 5600 | Carbon steel | 1987 | Oil waste treatment for demulsification. |
| 13 | 59 | imo oroduct storage tanks | 5000 | 5600 | Carbon steel | 1984 | Storage of recovered oil and "cuff". |
| 22 | 2 | o Compartment reactor vessel | 13000 | 11500 | Carbon steel | 1980 | Satch treatment of strong and incompatible waste. |
| 23 | 23 | Waste storage łank | 5200 | 4800 | FRP | 1984 | Storage of waste needing pretreatment |
| 25 | 17 | Chemical treatment unit | 4800 | 4300 | Carbon steel | 1980 | Batch pretreatment of strong and incompatible wastes. |
| 25 | 19 | Four gravitators | 2450 | 2300 | Carbon steel | 1980 | Precipitate flocculated metal hydroxides and solids. |
| 25 | 20 | Secondary clarifier | 6450 | 6100 | Carbon steel | 1980 | Precipitate flocculated metal hydroxides and solids. |
| 25 | 49 | Clarifier collection tank | 1900 | 1700 | Carbon steel | 1987 | Surge tank for secondary treatment feed. |
| 25 | 51 | ist secondary treatment t | ank 318 | 265 | Carbon steel | unknown | Chemical mixing for metals precipitation |
| 25 | 57 | 2nd secondary treatment t | ank 318 | 265 | Carbon steel | 1987 | Chemical mixing for metals precipitation |
| 25 | 53 | Flocculator tank | 880 | 730 | Carbon steel | 1987 | Flocculation of precipitate for metals removal. |
| 26 | 122 | Concrete siudge sumo | 13000 | 11875 | Carbon steel | 1980 | Collection of underflow from clarifiers. |
| 27 | 31 | Effluent discharge tank | 198500 | 180000 | Carbon steel | 1980 | Collection of treated water for batch discharge. |
| 28 | 10 | Primary storage tank | 212000 | 207000 | Carbon steel | 1980 | Mix and store compatible wastes. |
| 29 | 24 | Sludge concentrator tank | 212000 | 200000 | Carbon steel | 1980 | Sludge thickening and storage. |
| 30 | 13 | Mix tank | 424000 | 403000 | Carbon steel | 1980 | Mix and store compatible wastes. |
| 31 | 1 & 8 | Concrete receiving tanks | 7000 | 6000 | Reinforced concrete | 1980 | Receive individual waste shipments. |
| : | 29 | Sludge conditioning tank | 10400 | 9750 | Carbon steel | unknown | Prepare sludge for dewatering. |

TABLE 7

| <u>swmu</u> <u>no.</u> | UNIT NAME | SUGGESTED FURTHER ACTION | RELEASE |
|---------------------------|--------------------------------|---|-----------|
| 1 | Acid Drum Storage Area | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 2 | Alkaline Drum Storage Area | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 3 | Organic Drum Storage Area | No further action is suggested at this time because waste handling appears to adequate. | Unknown |
| 4 | Drum Staging Area | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 5 | Safety-Kleen Unit | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 6 | Process Sewer System | The entire process sewer system should be tested to verify the integrity of the system. If integrity has been breached, sample soils for organic and inorganic compounds. | Unknown |
| 7 | Outside Drum Storage Area 1 | Soil samples should be taken in the area of the old storage area and analyzed for constituents managed in this area. | Unknown |
| 8 | Former Sludge Storage Pad | No further action is suggested at at this time because waste handling appears to be adequate. | Unknown |
| 9 | Outside Drum Storage Area 2 | Soil samples should be taken around the edges of this storage pad. Samples should be analyzed for constituents managed in this area. | Unknown . |
| 10 | Carbon Absorption System | The integrity of the floor sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |

TABLE 7 (cont.)

| SWMU NO. | UNIT NAME | SUGGESTED FURTHER ACTION | RELEASE |
|-------------|---|---|---------|
| 11 | Inorganic Laboratory | The integrity of the floor drains should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 12 | Organic Laboratory | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 13 | Oil/Water Separator | The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 14 | Former 10,000 Gallon Sludge Feed Tank | The integrity of the floor drain should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 15 | Auxiliary Basin #3 | Sample soils for constituents managed in this area. | Unknown |
| 16 | Landfill | Sample soils for constituents managed in this area. | Unknown |
| 17 | Former Temporary Pickle Liquor Basins | Sample soils for constituents managed in this area. | Unknown |
| 18 | Former Pickle Liquor Disposal Sites | Sample soils for constituents managed in this area. | Unknown |
| 19 | Former Permanent Pickle Liquor Basins | Sample soils for constituents managed in this area. | Unknown |
| 20 | Former Oil Basin | Sample soils for constituents managed in this area. | Unknown |
| 21 | Former Lime Basin | Sample soils for constituents managed in this area. | Unknown |

TABLE 7 (cont.)

| SWMU NO. | UNIT NAME | SUGGESTED FURTHER ACTION | RELEASE |
|-------------|--|---|---------|
| 22 | Oxidation | Verify the integrity of the concrete at the base of this unit. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 23 | Special Waste Storage Tank | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 24 | Oil Contaminated Soil Storage Area | Sample soils for constituents managed in this area. | Unknown |
| 25 | Chemical Treatment Unit | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| 26 | 13,000 Gallon Concrete Sludge Tank | The integrity of the in-ground tank and associated piping should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 27 | Tank 1 | The integrity of the two in-ground sumps within the tank farm should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 28 | Tank 2 | The integrity of the two in-ground sumps within the tank farm should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 29 | Tank 3 | The integrity of the two in-ground sumps within the tank farm should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| 30 | Tank 4 | The integrity of the two in-ground sumps within the tank farm should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |

TABLE 7 (cont.)

| | • | |
|---|---|--|
| UNIT NAME | SUGGESTED FURTHER ACTION | RELEASE |
| 7,000 Gallon Concrete Receiving Tanks | The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| Truck Unloading Pad | Sample soils around the edge of the pad for constituents managed in this area (sump integrity should be checked as stated in SWMU #31). | Unknown |
| Sludge Dewatering System | The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. | Unknown |
| Former Rotary Filter Press | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| Mobile Filter Press | No further action is suggested at this time because waste handling appears to be adequate. | Unknown |
| Inside Drum Storage Area | The integrity of the sump should be verified in conjunction with SWMU #10. If the integrity has been breached, sample soils for constituent managed in this area. | Unknown s |
| | 7,000 Gallon Concrete Receiving Tanks Truck Unloading Pad Sludge Dewatering System Former Rotary Filter Press Mobile Filter Press Inside Drum | 7,000 Gallon Concrete Receiving Tanks The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. Truck Unloading Pad Sample soils around the edge of the pad for constituents managed in this area (sump integrity should be checked as stated in SWMU #31). Sludge Dewatering System The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area. Former Rotary Filter Press No further action is suggested at this time because waste handling appears to be adequate. Mobile Filter No further action is suggested at this time because waste handling appears to be adequate. Inside Drum Storage Area The integrity of the sump should be verified in conjunction with SWMU #10. If the integrity has been breached, sample soils for constituents. |

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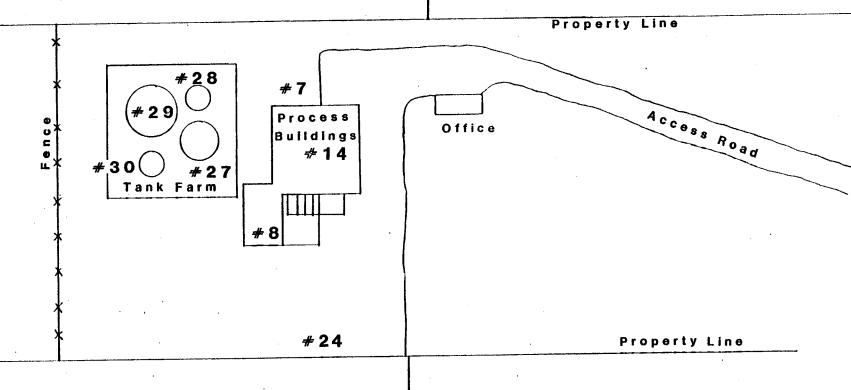
- U.S. Geological Survey, 1973 Blue Island, Illinois 7.5 Minute Quadrangle.
- U.S. Geological Survey, 1980 Calumet City, Illinois-Indiana 7.5 Minute Quadrangle.
- U.S. Geological Survey, 1973 Lake Calumet, Illinois-Indiana 7.5 Minute Quadrangle.

ATTACHMENT A

SOLID WASTE MANAGEMENT UNIT LOCATION MAP 1

SCA/Chem Waste Management

Slip No. 6

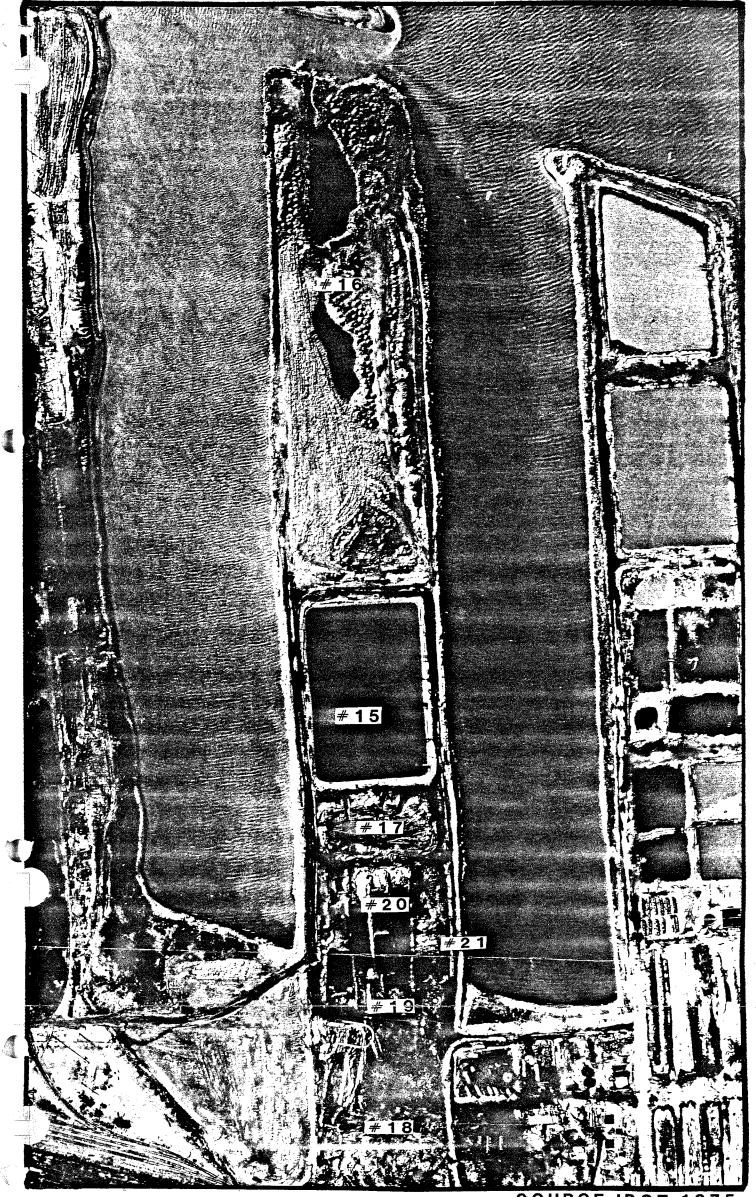


Slip No. 4

EmEs Company

ATTACHMENT B

SOLID WASTE MANAGEMENT UNIT LOCATION MAP 2



SOURCE:IDOT,1975

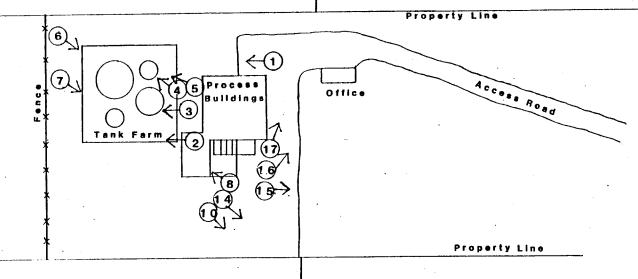
ATTACHMENT C

VSI PHOTOGRAPH LOCATIONS MAP

W S E

SCA/Chem Waste Managemen





Slip No. 4

EmEs Company

Photo Location Map

| DATE: December 19, 1990 |
|---------------------------------|
| E: ///48 Am |
| PHOTOGRAPH TAKEN BY: |
| July TizilleR |
| PHOTO NUMBER: 1 |
| LOCATION: CONGRESSI Cock County |
| Clean Harbors of Chicago , INC. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west on the north side of |
| Process building #1 Old Drum |
| Storage Area #1 (Swmv # ?) |
| |



DATE: December 19, 1990

TIME: 11:52 AM

PHOTOGRAPH TAKEN BY:

The Tiller

PHOTO NUMBER: 2

LOCATION: 6316000051 -- Cock Condy

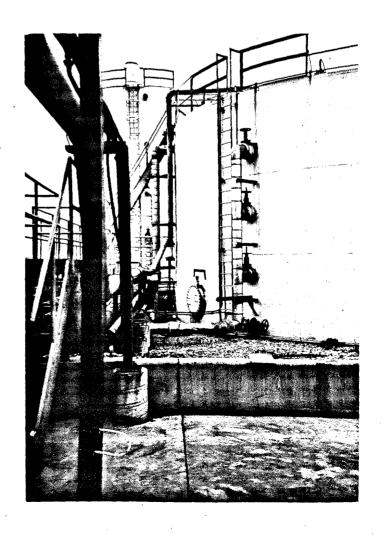
Claus Harbers of Chicago, Tax.

The west southwest at tast *1

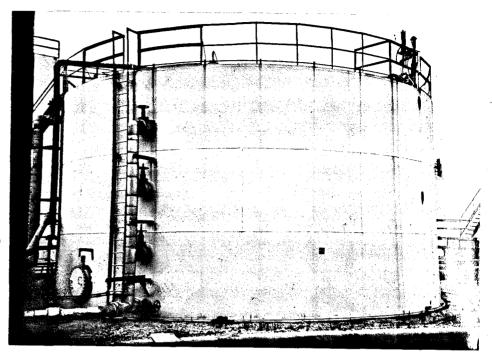
(SWMV * 27) in fore grounds and

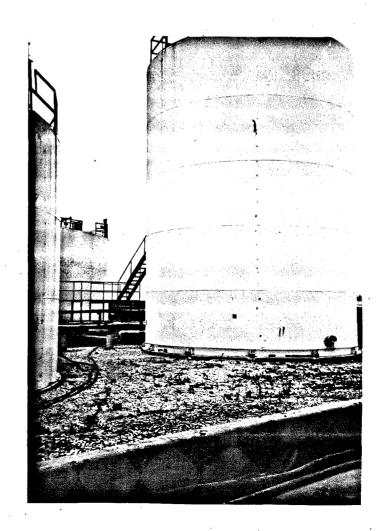
fact * 3 (SWMV * 29) in

ground



| DATE: December 19, 1990 |
|--------------------------------|
| T1 //:52 Am |
| PHOTOGRAPH TAKEN BY: |
| July Tiziller |
| PHOTO NUMBER: 3 |
| LOCATION: 20316000051 Cock Co. |
| Clean Harbors of Chicago, INC. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at tank #1 |
| (Swmu # 27) |
| • |



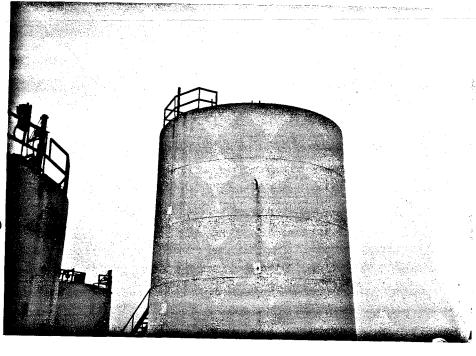


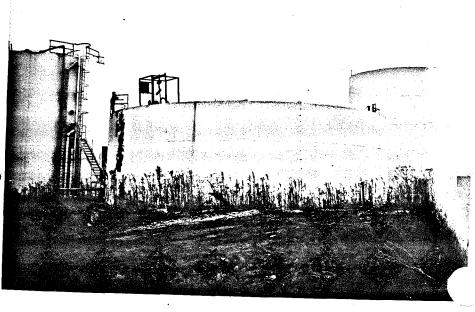
| DATE: December 19,1990 |
|--------------------------------------|
| TIME: ///54 Am |
| PHOTOGRAPH TAKEN BY: |
| Judy T.Z. Hen |
| PHOTO NUMBER: 5 |
| LOCATION: <u>603/600051 Cook Co.</u> |
| Clean Harbors of Chicago, Inc. |
| JLD 000 608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at tank #2 (Swmu#28) |
| with tonk #1 6wmu #2>) in the |
| left and Tank # 4 (SWMU#30) in |
| the background. |
| |
| DATE: December 19,1990 |
| TIME: 11:56 am |
| PHOTOGRAPH TAKEN BY: |
| Judy Tiziller |
| PHOTO NUMBER: 6 |

LOCATION: LOS/1000051- Cooklo

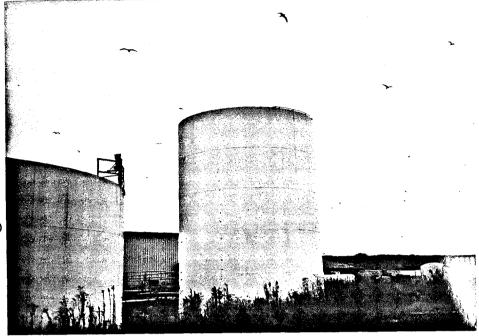
ILD 000608471

Clean Harbors of Chicago Inc.





| DATE: December 19, 1990 |
|--------------------------------|
| 7 /1:57 Am |
| PHOTOGRAPH TAKEN BY: |
| Judy Tailler |
| PHOTO NUMBER: 7 |
| LOCATION: 20316000051 Cok Co. |
| Clean Harbors of Chicago, INC. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southeast at tank #3 (Swmu |
| #29) with took #4 (SWMU#30) |
| as the left. |



DATE: December 19,1990

TIME: 12:02 pm

PHOTOGRAPH TAKEN BY:

Tudy Tiziller

PHOTO NUMBER: 8

LOCATION: 20311000051-- Cock 6.

Clear Harbers of Chicase, Juc.

TLD 000618471

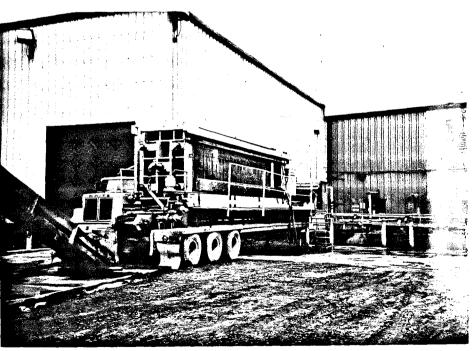
COMMENTS: PICTURE TAKEN TOWARD

the northwest of the mobile

filter press (Swmu#35), with

the concrete receiving tanks (Swmu

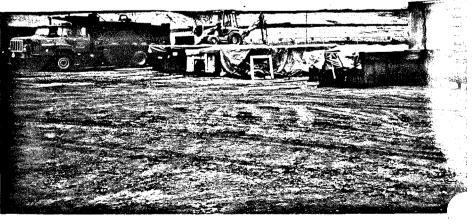
- Lunkinding pod 6wmu#32) on 2ight.



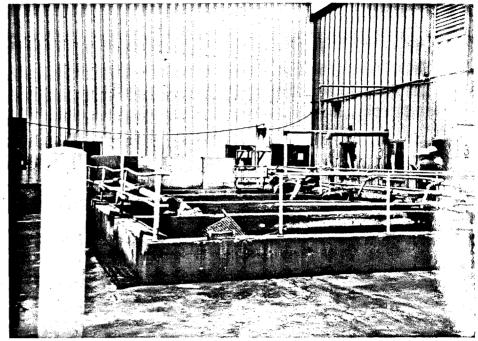
| DATE: December 19, 1990 |
|---|
| TIME: /2!07 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 9 |
| LOCATION: <u>20316000051 Cook Co.</u> |
| Clean Harbors of Chicago, Two. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the north at the concrete receiving |
| touts (Swmv #31) and whooding Pad |
| (Swimu#32) on the left, with outside |
| drum Sterage Area (Swmu #9) on the pad Right of the receiving tanks. |
| DATE: December 19,1990 |
| TIME: 12:09 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Tiziller |
| PHOTO NUMBER: /O |
| LOCATION: 1031600051 look lo. |
| Clean Harbors of Chicago, Juc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southeast at the area used |
| to store oil contaminated soil |
| in 20 cubic yard Roll-off |

(SWMU #24)





| DATE: <u>December</u> 19,1990 |
|---|
| : |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: // |
| LOCATION: 20316 000051 Cook Co. |
| Clear Harbors of Chicago, INC. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west southwest at the |
| concrete receiving tonts (Swmu#31) |
| Process building #1 is on the Right and |
| Process building \$2 is on the left. |



DATE: December 19,1990

TIME: 12:11pm

PHOTOGRAPH TAKEN BY:

Tudy Tiziller

PHOTO NUMBER: 12

LOCATION: LO316000051 -- Cock Co.

Clear Harbois of Chicaso, Inc.

TLD 000605471

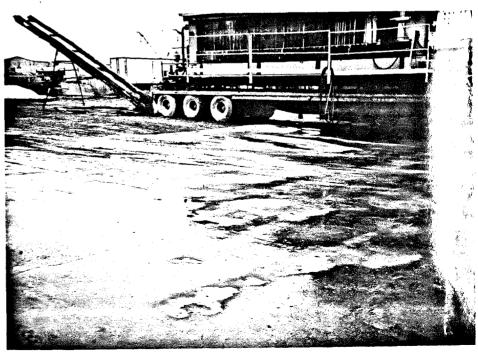
COMMENTS: PICTURE TAKEN TOWARD

the south southwest of the

truck unloading pad (Sumu = 32)

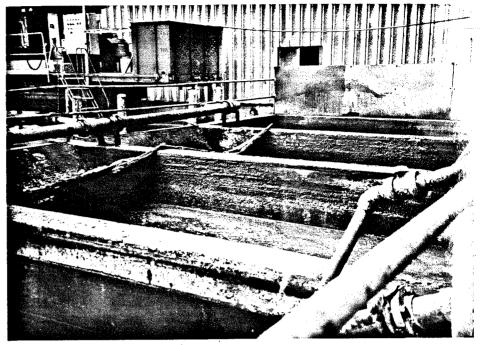
with the mobile filter press in

ktground (Sumu = 35)



| DATE: December 19,1990 |
|--|
| Th:: 12:15 pm |
| PHOTOGRAPH TAKEN BY: |
| July Triller |
| PHOTO NUMBER: /3 |
| LOCATION: <u>LO316000051 Cook Co.</u> |
| Clean Harbors of Chicago Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southwest at the concrete |
| receiving tanks (Swmu# 31) |
| with Pioness Building # 2 in the |
| background. |
| |
| |
| DATE: December 19,1990 |
| DATE: <u>December 19,1990</u> TIME: <u>12122 pm</u> |
| , |
| TIME: 12:22 pm |
| PHOTOGRAPH TAKEN BY: |
| PHOTOGRAPH TAKEN BY: July Tailler |
| PHOTOGRAPH TAKEN BY: Toly Tailler PHOTO NUMBER: 14 |
| PHOTOGRAPH TAKEN BY: July Tailler PHOTO NUMBER: 14 LOCATION: 20316 20051 Cook Co. |
| PHOTOGRAPH TAKEN BY: July Tailler PHOTO NUMBER: 14 LOCATION: 20316 00051 Cook Co. Clean Harbers of Chicago, Inc. |

Southeast corner





| DATE: December 19,1990 |
|---|
| 12:22 pm |
| PHOTOGRAPH TAKEN BY: |
| Ivdy Tziller |
| PHOTO NUMBER: 15 |
| LOCATION: 20316000051 Cook Co. |
| Clear Harbors of Chicago, Inc. |
| JLD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the east at the past side of |
| the facility and where the |
| Former Pickle Liguer Disposal site (SUMU 0/8) |
| and Gover Permanent Pickle Ligur Basin GWMU49 |



DATE: December 19,1990

TIME: 13:22 pm

PHOTOGRAPH TAKEN BY:

TUDY TRIVER

PHOTO NUMBER: 16

LOCATION: 603/6000051-- Cook Co

Clear Harbers of Chicago, Juc.

TLD 000608471

COMMENTS: PICTURE TAKEN TOWARD

PAST no Hoast at the east part of the

Sailty and office Trailer. Area where

the former permanent pickle liquor (Swmu

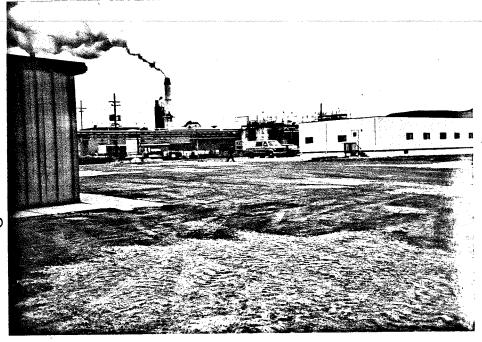
Aformer ail basin (Swmu*20)

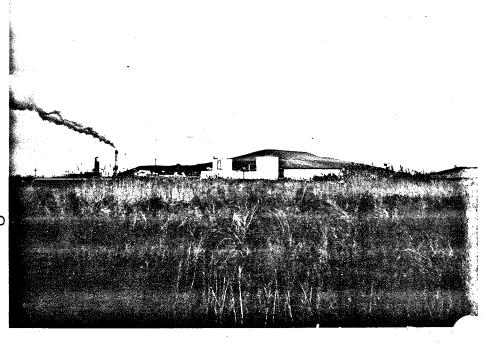


| PHOTOGRAPH TAKEN BY: |
|---|
| Judy Triller |
| PHOTO NUMBER: |
| LOCATION: 103/6000051 Cock Co. |
| Clear Harbers of Chicago, Juc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the worth wortheast at the office |
| trailer and area where the |
| Somer oil basin (SWMU = 20) and |
| former line basin (SWAU 21) were booked. |
| |
| 7 1 10 100 |
| DATE: December 19,1990 |
| DATE: |
| |
| TIME: //40pm |
| TIME: //40 pm PHOTOGRAPH TAKEN BY: |
| PHOTOGRAPH TAKEN BY: Judy Tailler |
| PHOTOGRAPH TAKEN BY: Tody Tailler PHOTO NUMBER: 18 |
| PHOTOGRAPH TAKEN BY: Tody Triller PHOTO NUMBER: 18 LOCATION: 20316000051 (rok Co |
| PHOTOGRAPH TAKEN BY: Tody Triller PHOTO NUMBER: 18 LOCATION: 20316000051 Cook Co Clean Harbors of Chicago, Inc. |
| PHOTOGRAPH TAKEN BY: Tudy Triller PHOTO NUMBER: 18 LOCATION: 20316000051 Cock Co Clean Harbors of Chicago, Inc. TLD 000608471 |
| PHOTOGRAPH TAKEN BY: Tody Triller PHOTO NUMBER: 18 LOCATION: 20316000051 Cock Co Clean Harbors of Chicago, Inc. TLD 000608471 COMMENTS: PICTURE TAKEN TOWARD the east notheast at the West part of the facility and |
| PHOTOGRAPH TAKEN BY: |

DATE: December 19,1990

TIME: /2:22 pm

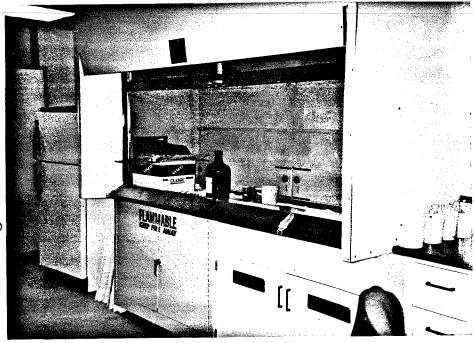


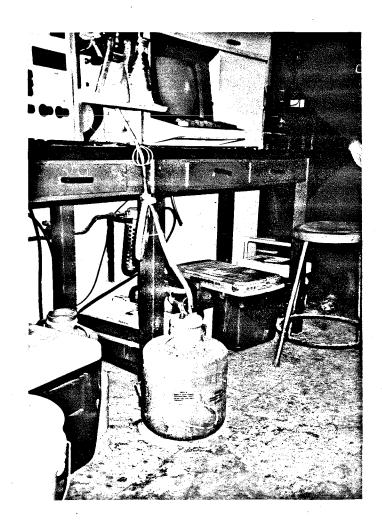


| DATE: December 19, 1990 | | | | | | |
|--------------------------------|--|---|--------------------|----|--------------|--|
| TI 1:46 pm | | | | | | |
| PHOTOGRAPH TAKEN BY: | | | | | | |
| July Tiziller | | | | | | |
| PHOTO NUMBER: /9 | | | | | | |
| LOCATION: 20316000051 Cook Co. | | | • | | | |
| Clean Harbors of Chicago, INC. | | | | | | |
| ILD000608471 | | | | | | |
| COMMENTS: PICTURE TAKEN TOWARD | | | | | $\psi_{j,j}$ | |
| east northeast at the wastend | | | | | | |
| of the facility in an area | | | | | | |
| of the old landfill (SWMU#16) | | | | | | |
| | | | | | | _ |
| | | | | | | · |
| DATE: December 19,1990 | | | | | | |
| TIME: 1.46 pm | | | | | | |
| PHOTOGRAPH TAKEN BY: | No. J. Market | | | | | |
| July Tailler | | | | | | |
| PHOTO NUMBER: 20 | To the second se | | | | | |
| LOCATION: 20316000001 Cook 6. | | | | | | |
| Clean Harbers of Chicago, INC. | | | | | | |
| ILD 000608471 | | | | W. | W | Contraction of the Contraction o |
| COMMENTS: PICTURE TAKEN TOWARD | Same of the second | · • • • • • • • • • • • • • • • • • • • | n galagae Tagan | | | |
| west northwest at the end | | | | | | |
| of the pier and in the area | 1: - 1 | | 三大大 地位 | | | |
| of the old landfill (SWMU #16) | | | | | | |

and a different contraction of

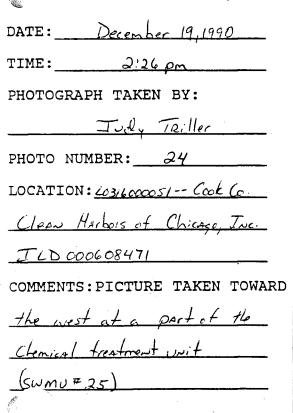
| DATT: <u>December 19,1990</u> |
|---------------------------------------|
| TIME: //59 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 21 |
| LOCATION: <u>20316000051 Cook Co.</u> |
| Clean Harbors of Chicago Inc. |
| JLD 000 608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the north at the fune hood in |
| the Organic Laboratory (Sumu# |
| 12) |
| |

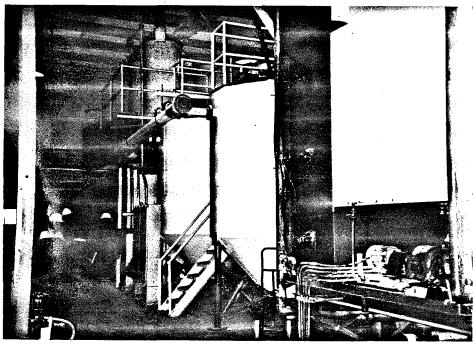




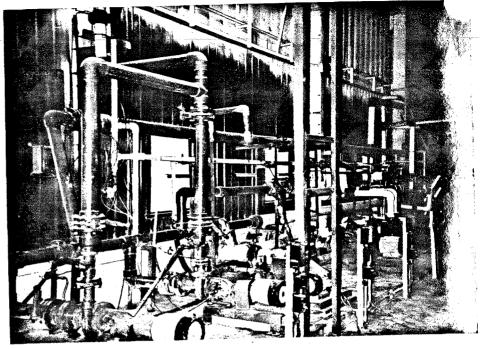
| DATE: December 19,1990 |
|--------------------------------|
| T. 2:14pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Tailler |
| PHOTO NUMBER: 23 |
| ON: 60316000051 Cook Co. |
| Harbors of Chicago, Inc. |
| 20000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west southwest at a 5 |
| shelf cabinet used to |
| store incoming wastes in the |
| Indiganic Laboratory (SWMU#11) |
| |

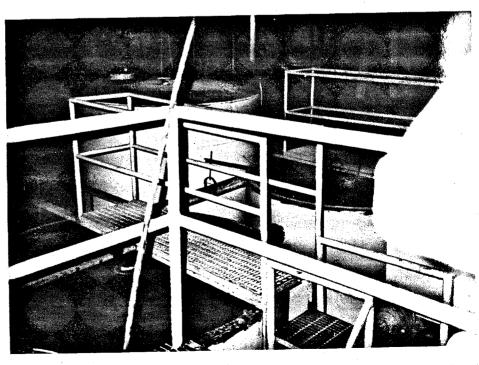






| DATE: <u>December 19,1990</u> |
|---------------------------------|
| TIME: 2:26pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Tailler |
| PHOTO NUMBER: 25 |
| LOCATION: LABIGODOSI Cook Co. |
| Clean Harbors of Chicago, Toxe. |
| ILD 000 608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southwest at the pumps |
| used to pump material from |
| the concrete receiving tanks |
| (SWmu #31) |
| |



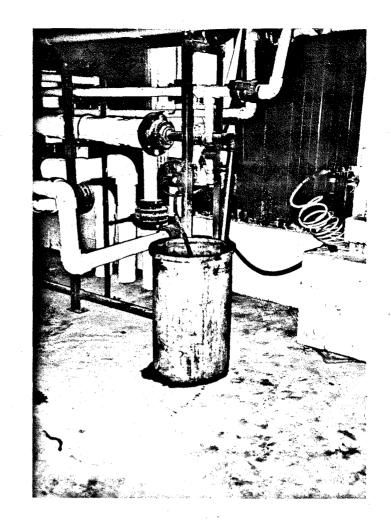


| N 1 12 122 |
|--------------------------------|
| December 19,1990 |
| T1: 2:37 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 27 |
| LOCATION: 203/6000051- Cook 6. |
| Clean Harbors of Chicago, Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the south at the process |
| Sower system (Swmu#6) and |
| the sampling box used to |
| monitor the discharge |





| DATE: December 19,1990 |
|---------------------------------------|
| AE: 2:38 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Taller |
| PHOTO NUMBER: 29 |
| LOCATION: <u>203/10000051 Cook Co</u> |
| Clear Harbers of Chicago, Inc. |
| JLD 0006C8471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southeast at one of the |
| portable down pumping |
| staticus - |
| |



DATE: December 19,1990

TIME: 2:42 pm

PHOTOGRAPH TAKEN BY:

Toly Tailler

PHOTO NUMBER: 30

LOCATION: 603/6000051-/och Co.

Clear Harbors of Chiago, The.

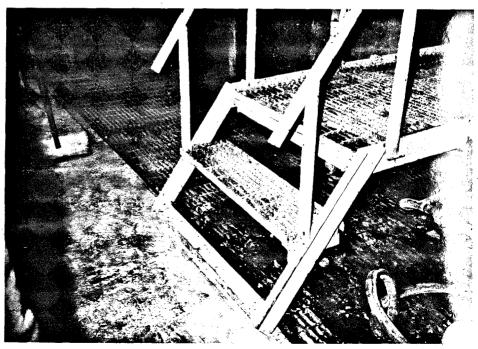
TOD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the worth at the 13,000

GALLOW IN-SCOUND CONCRETE

SIND, fank (SWMV # 24)



| DATE: December 19 1990 |
|--------------------------------------|
| 2:48 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 3/ |
| LOCATION: <u>203/600051 Cook Co.</u> |
| Clean Harbors of Chicago, INC. |
| J2 D 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the north at the Drum storage |
| Area (Swmu #36) isside the |
| building containing the corbon |
| Absorption System (SWMU#10) |
| |



DATE: December 19,1990

TIME: 2!48pm

PHOTOGRAPH TAKEN BY:

July Tiziller

PHOTO NUMBER: 32

LOCATION: 20316000051 - Cook Co.

Clear Harbors of Chicago, Inc.

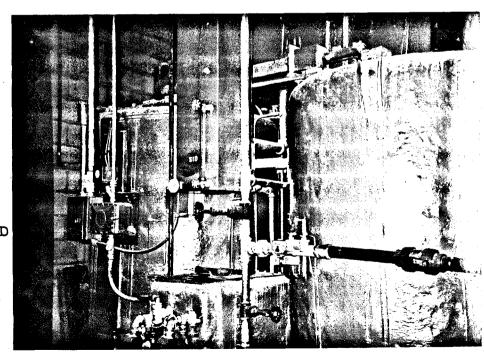
ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

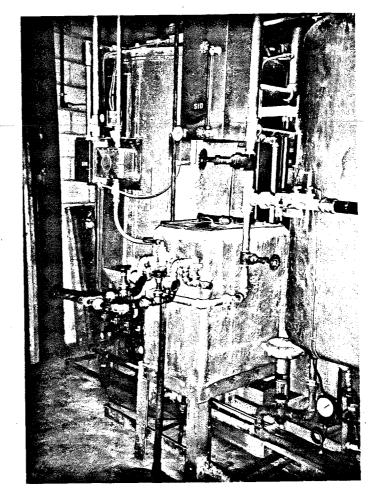
the north wortheast at the

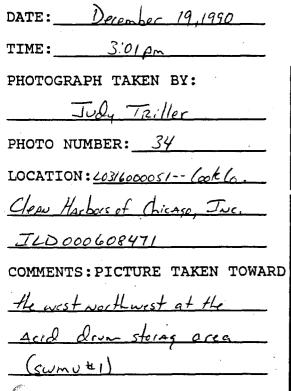
Carbon Absorption system

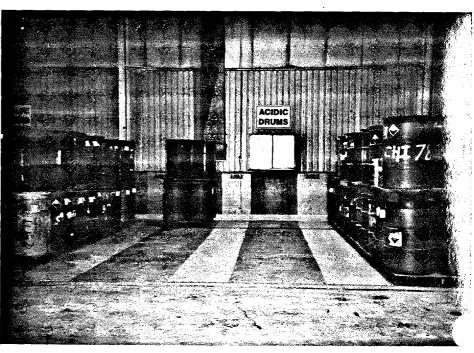
(Swmu#10)



| DATE: <u>December 19,1990</u> |
|----------------------------------|
| AME: 2:48pm |
| PHOTOGRAPH TAKEN BY: |
| July Triller |
| PHOTO NUMBER: 33 |
| LOCATION: 20316000051 - Cook lo. |
| Clear Harbors of Chicago TNC. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the north northeast at the |
| Carbon Absorption System |
| (Swmu # 10) |
| * |
| |







| DAME: Docember 19,1990 |
|--------------------------------|
| T. 3:02 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Tailler |
| PHOTO NUMBER: 35 |
| LOCATION: 203/6000051 Cot Co. |
| Clear Harbors of Chicago, Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west northwest at the |
| Alkaline drum storage area |
| (Swmv #1) |



DATE: December 19,1990

TIME: 3.03pm

PHOTOGRAPH TAKEN BY:

JULY TRITLER

PHOTO NUMBER: 36

LOCATION: 20316000051- Cook 6.

Clean Harbors of Chicago, Troc.

ZOD 000608471

COMMENTS: PICTURE TAKEN TOWARD

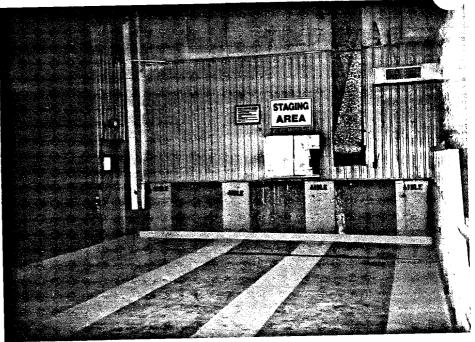
west northwest at the

organic clrum storage area

(cumu#3)



| DATE: December 19, 1990 |
|---------------------------------------|
| ME: 3:03pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 37 |
| LOCATION: <u>203/6000051 Cook Co.</u> |
| Clear Harbors of Chicago Jac. |
| ILD 000 608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at the drum |
| Staging Area (Swmu#4) |
| |



DATE: December 19,1990

TIME: 3:12pm

PHOTOGRAPH TAKEN BY:

July Triller

PHOTO NUMBER: 38

LOCATION: LO3/16000051- Cook (o. Clean Harburs of Chicago, Jax.

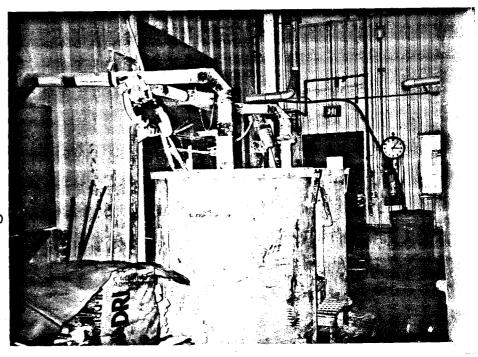
JLD 000608471

COMMENTS: PICTURE TAKEN TOWARD

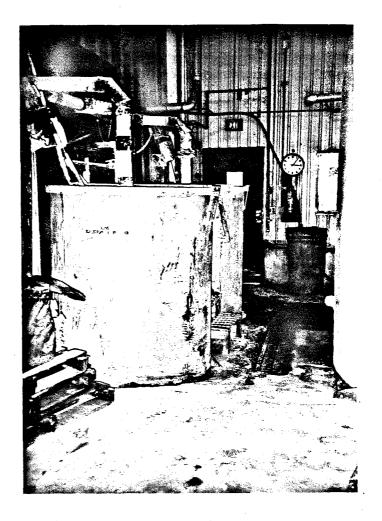
the past at the lime shrey
touts associated with the

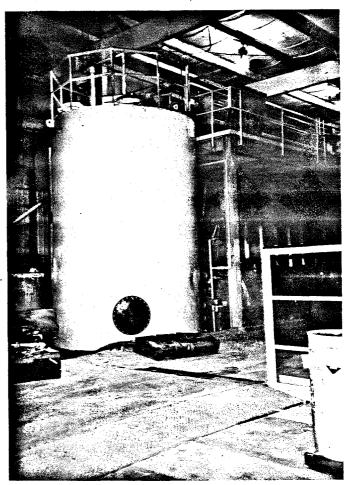
Sludge dematring system

(Swmut33)



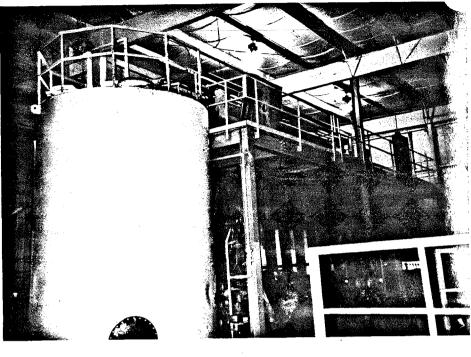
| December 19,1990 |
|---------------------------------|
| 3:12pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 39 |
| LOCATION: 203/600051 Cook Co. |
| Class Harburs of Chicago Inc. |
| JED 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the past at the line slurry |
| tacks associated with He |
| sledge dewatering system |
| Swmv # 33) |
| |
| DATE: December 19, 1990 |
| TIME: 3:13pm |
| PHOTOGRAPH TAKEN BY: |
| Judy TRiller |
| PHOTO NUMBER: 40 |
| LOCATION: 20316000051Cooklo. |
| Clear Harbors of Chicago, Inc. |
| ILIS 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southeast at a 10,000 |
| gallow studge conditioning tank |
| Associated with the sludge |
| la (schon (Swm) #33) |

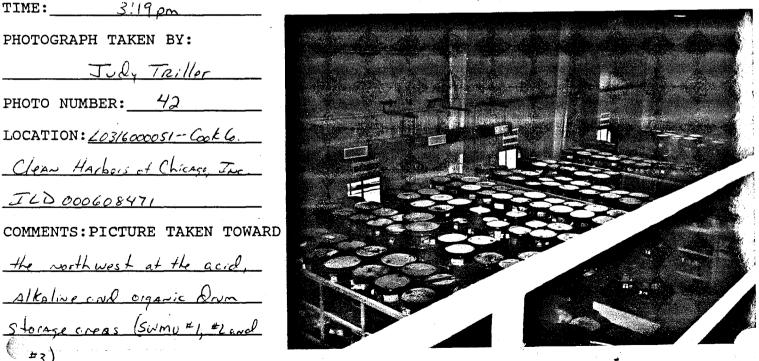




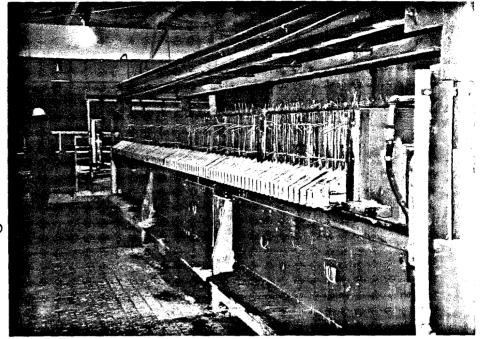
| DATE: December 19,1990 |
|------------------------------------|
| TIME: 3:13 pm |
| PHOTOGRAPH TAKEN BY: |
| July Triller |
| PHOTO NUMBER: 4/ |
| LOCATION: 203/600051 Cook 6. |
| Clean Harbors of Chicago, Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the southerst at the 10,000 gallow |
| studge conditioning tank and the |
| filterpress used in the studge |
| dewatering system (SWMU#33) |
| |
| DATE: December 19,1990 |
| TIME: 3:19 pm |
| PHOTOGRAPH TAKEN BY: |
| July Triller |
| PHOTO NUMBER: 42 |
| LOCATION: 203/6000051 Cook 6. |
| Clear Harbois of Chicago, Inc. |

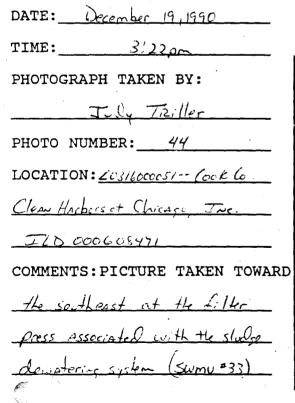
ILD 000608471

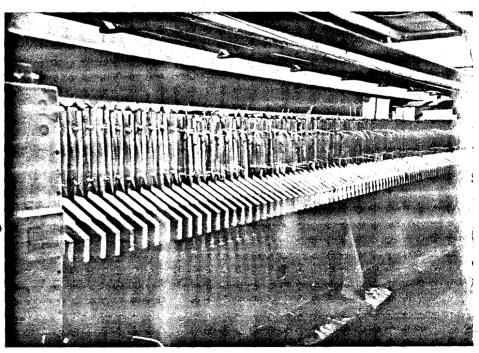




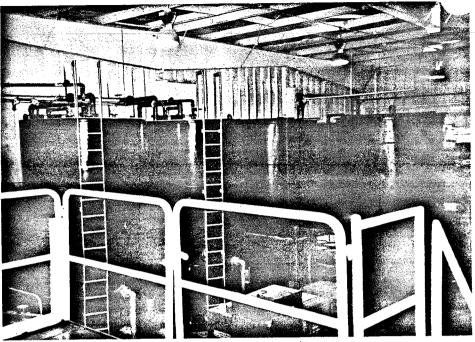
| DATE: December 19 1990 | |
|--------------------------------|---|
| 3:20 pm | |
| PHOTOGRAPH TAKEN BY: | |
| Judy Triller | |
| PHOTO NUMBER: 43 | |
| LOCATION: 603/600051 lockle | |
| Clean Harborick Chicago, Inc. | |
| ILD 000608471 | |
| COMMENTS: PICTURE TAKEN TOWARD | t de la companya de |
| the worth at the filter press | |
| Associated with the slidge | |
| downtoring system. Swau = 33) | |
| ' | |

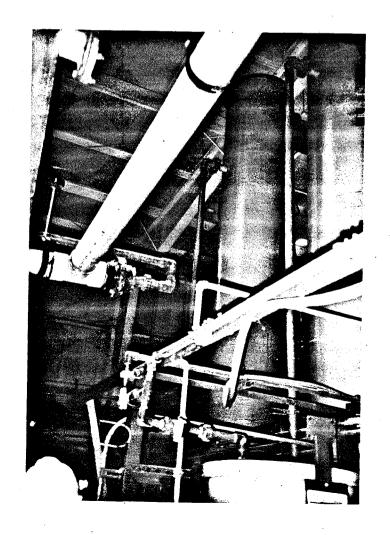




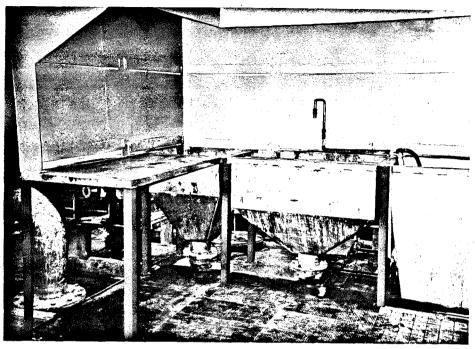


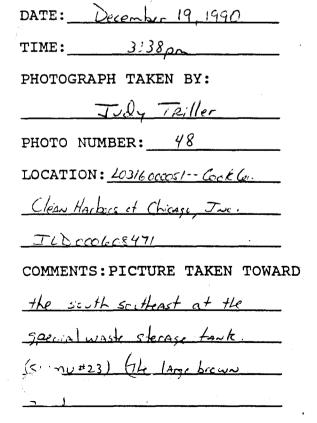
| DATE: <u>December 19, 1990</u> |
|-------------------------------------|
| TIME: 3:34pm |
| PHOTOGRAPH TAKEN BY: |
| _ July Triller |
| PHOTO NUMBER: 45 |
| LOCATION: <u>20316000051 Cookle</u> |
| Clean Harbus of Chicago, Two. |
| TLD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the north at the tanks |
| associated with the |
| allwater Separator System. |
| (SWMU # 13) |
| |
| DATE: December 19,1990 |
| TIME: 3:37pm |
| PHOTOGRAPH TAKEN BY: |
| July TRiller |
| PHOTO NUMBER: 46 |
| LOCATION: 20316000051 Cook 6. |
| Clean Harbers of Chicago Inc. |
| JLD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the northwest at the two |
| scrubbers associated with the |
| Pretreatment system (Swmu = 22) |
| |

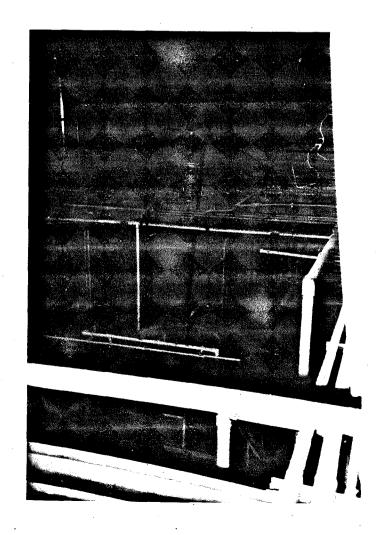




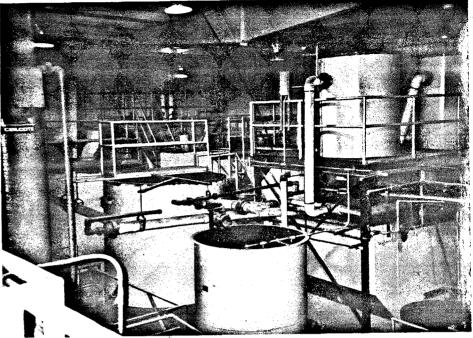
| DAME: December 19, 1990 |
|---------------------------------------|
| I. 3:38 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 47 |
| LOCATION: <u>603/6000051 Cock Ce.</u> |
| Chean Harbers of Chicago, Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| South southeast at He Lab |
| Dack poor-off Station assaisted |
| the chemical pretreatment |
| System (Swinut 22) |
| e e e e e e e e e e e e e e e e e e e |





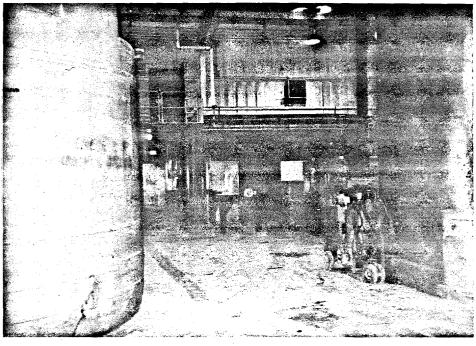


| DATE: <u>December 19:1990</u> |
|--------------------------------------|
| TIME: 3:44pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 49 |
| LOCATION: <u>CO316000051 Cockle</u> |
| Clear Harbers et Chiense Inc. |
| JLD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| east scuttered at the facks |
| associated with the |
| Chemical treatment Unit. |
| (Swmu # 25) |
| |
| DATE: December 19,1990 |
| TIME: 3:47 pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Tailler |
| PHOTO NUMBER: 50 |
| LOCATION: <u>20316000051 Cookle.</u> |
| Clean Harbors of Chicago, Inc. |
| ILD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at the Safety-Kleen |
| U. t. (SWMU #5) |
| |



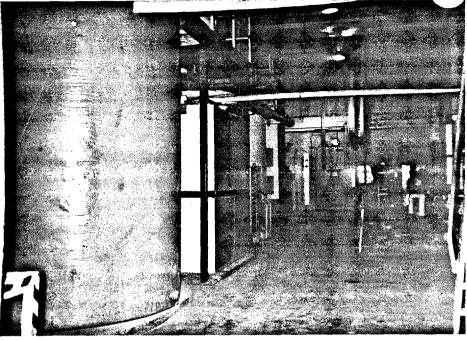


| DATE: December 19,1990 |
|--------------------------------------|
| 3154pm |
| PHOTOGRAPH TAKEN BY: |
| July Tailler |
| PHOTO NUMBER: 51 |
| LOCATION: <u>LOS/600051-Conk Co.</u> |
| Clear Harbers of Chicago, Juc. |
| JLD 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at an old location for |
| the studge feed touk (Swmu#14) |
| with the pillwater separator tanks |
| (Swmu#13) on the right |





| DATE: December 19,1990 |
|----------------------------------|
| TIME: 3:58pm |
| PHOTOGRAPH TAKEN BY: |
| Judy Triller |
| PHOTO NUMBER: 53 |
| LOCATION: 20316 accost Cook G. |
| Clean Harbors of Chicago, Inc. |
| JID 000608471 |
| COMMENTS: PICTURE TAKEN TOWARD |
| the west at some at the tooks |
| associated with the pretreatment |
| 3ystem. (5wmv #22) |



DATE: December 19,1990

TIME: 3:59 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 54

LOCATION: 60316000051-- Cook 6.

Cleion Harbors of Chicago, Inc.

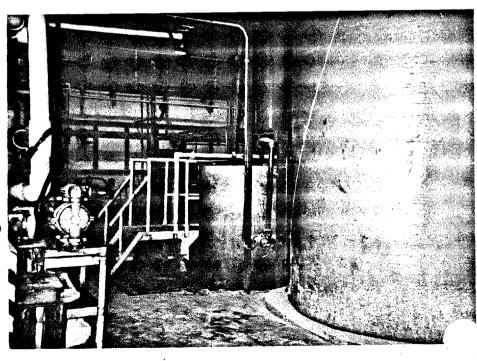
ICD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the worth at the 13,000 gallon
in ground sludge tank (Swmu # 26)

and the special waste storage

Truck (Swmu #23) on the Right.



ATTACHMENT D

ANALYTICAL DATA FROM BOREHOLES AND MONITOR WELLS



CHICAGO, IL 60617 (312) 646-6202

August 23, 1990

Mr. Mark Schollenberger
Permit Section
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Division of Land Pollution Control
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Schollenberger:

Enclosed are the lab analysis reports for the outside storage area which you requested. Several analyses are not completed but will be faxed to your attention on Friday, August 24, 1990.

Should you have any questions, please feel free contact me at 312/646-6202.

Sincerely,

CLEAN HARBORS OF CHICAGO, INC.

James R. Laubsted General Manager

am R. Janital

Enclosure

JRL/mk

RECEIVED

AUG 2 4 1990

IEPA-DLPC



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-01M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|-------------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 27 | ИD | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 1.99 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 2.66 | 3 15 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 33 | 400 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0654 | 0.0654 | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 40 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.6 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

ND - Below minimum detectable level (MDL) Notes:

* = mg/kg

Soil/Solid samples based on sample dry weight.

RECEIVED

AUG 2 4 1990

IEPA-DLPC

eanHarbors

Client: Clean Harbors of Chicago Sample ID: BORING #1, SAMPLE 1

Sample Type: Soil

CHAS Lab #: 90X08069-01H Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/10/90 Analysis Date: 08/17/90

| 5 (M) 3 (A) | MDI 4 | • | - W | | | _ |
|-----------------------------|-------|------------|-------------------------|-------------|-----|---------|
| Base/Neutral Compounds | HDL* | Conc.* | Base/Neutral Compounds | | Ľ* | Conc. |
| bis(2-Chloroethyl)Ether | 1.7 | ND | Di-n-Butylphthalate | 1. | | ND |
| 1,3-Dichlorobenzene | 1.7 | ND | Fluoranthene | | | |
| 1,4-Dichlorobenzene | 1.7 | ND | Pyrene | | | |
| 1,2-Dichlorobenzene | 1.7 | ND | Butylbenzylphthalate | | | ND |
| bis(2-Chloroisopropyl)Ether | | ND | 3,3'-Dichlorobenzidine | 3. | - | ND |
| N-Nitroso-Di-n-Propylamine | 1.7 | ND | Benzo(a)Anthracene | 1. | - | ND |
| Hexachloroethane | 1.7 | ND | bis(2-Ethylhexyl)Phthal | | - | ND |
| Nitrobenzene | 1.7 | ND | Chrysene | 1. | | ND |
| Isophorone | 1.7 | ND | Di-n-Octylphthalate | 1. | | ND |
| bis(2-Chloroethoxy)Methane | 1.7 | ND | Benzo(b)Fluoranthene | 1, | 7 | TR |
| 1,2,4-Trichlorobenzene | 1.7 | ND | Benzo(k)Fluoranthene | 1. | | ND |
| Naphthalene | 1.7 | ND | Benzo(a)Pyrene | 1. | | ND |
| 4-Chloroaniline | 1.7 | ND | Indeno(1,2,3-cd)Pyrene | 1. | 7. | ND |
| Hexachlorobutadiene | 1.7 | ND | Dibenz(a,h)Anthracene | | | ND |
| 2-Methylnaphthalene | 1.7 | ND | Benzo(g,h,i)Perylene | 1. | 7 | ND |
| Hexachlorocyclopentadiene | 1.7 | ND | | | | |
| 2-Chloronaphthalene | 1.7 | ND | | | | |
| 2-Nitroaniline | 8.3 | ND | Acid Compounds | HID | L* | Conc. |
| Dimethyl Phthalate | 1.7 | ND | | | | |
| Acenaphthylene | 1.7 | ND | Phenol | 1. | 7 | ND |
| 3-Nitroaniline | 8.3 | ND | 2-Chlorophenol | 1. | 7 | ND |
| Acenaphthene | 1.7 | ND | 2-Methylphenol | 1. | 7 | ND |
| Dibenzofuran | 1.7 | ND | 4-Methylphenol | 1. | 7 | ND |
| 2,4-Dinitrotoluene | 1.7 | ND | 2-Nitrophenol | 1. | 7 | ND |
| 2,6-Dinitrotoluene | 1.7 | ND | 2,4-Dimethylphenol | 1. | 7 | ND |
| Diethylphthalate | 1.7 | ND | 2,4-Dichlorophenol | 1. | 7 | ND |
| 4-Chlorophenyl-phenylether | 1.7 | ND | 4-Chloro-3-methylphenol | . 1. | 7 | ND |
| Fluorene | 1.7 | ND | 2,4,6-Trichlorophenol | 8. | 3 | ND |
| 4-Nitroaniline | 8.3 | ND | 2,4,5-Trichlorophenol | 8. | | ND |
| N-Nitrosodiphenylamine | 1.7 | ND | 2,4-Dinitrophenol | 8. | | ND |
| 4-Bromophenyl-phenylether | 1.7 | ND | 4-Nitrophenol | 8. | | ND |
| Hexachlorobenzene | 1.7 | ND | 4,6-Dinitro-2-methylphe | | | ND |
| Phenanthrene | -1.7 | TR | Pentachlorophenol | 8. | | ND |
| Anthracene | 1.7 | ND | | | _ | |
| | | • • • | QA/QC Surrogate | Rec. | Rai | nge CLP |
| | | | 2-Fluorophenol | 82 % | 25 | - 121% |
| | | | Phenol-D5 | 95% | | - 113% |
| • | | | Nitrobenzene-D5 | 84% | | - 120% |
| | | | 2-Fluorobiphenyl | 96% | | - 121% |
| | | c | 2,4,6-Tribromophenol | 39% | | - 122% |
| | | | Terphenyl-D14 | 81% | | - 137X |
| Natara NO - Balay minimum | da+ | eble level | | OIA | 10 | - 13/8 |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

RECEIVED

AUG 2 4 1990

IEPA-DLPC



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-01A Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | MDL* | Conc.* | Parameter | MDL* | Conc.* |
|----------------------------|-------|--------|---------------------------|----------|------------|
| Priority Pollutant Compoun | ids: | • | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroethene | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | ND |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | ND | Ethylbenzene | 0.005 | מא |
| Methylene Chloride | 0.005 | ND | | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | s : |
| 1,1-Dichloroethene | 0.005 | ИD | Acetone | 0.020 | 0.022 |
| 1,1-Dichlorosthane | 0.005 | ND | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | מא |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methyl-2-Pentanone | 0.005 | ND |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | ND |
| 1,2-Dichloropropane | 0.005 | ND | • | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromoethane (EDB) | 0.005 | • |
| Benzene | 0.005 | ND | Methyl-t-Butylether | 0.010 | "אם |
| Dibromochloromethane | 0.005 | מא | 1,2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | ND | 1,3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | nd |
| 2-Chlorosthylvinylether | 0.010 | ND | Acrolein | 0.010 | ND |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | מא |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received. No additional peaks observed in sample

| QA/QC | Surrogate Recoveries: | Surrogate Acceptance Criteria: | | |
|-------|---------------------------|--------------------------------|---------|---------|
| • , • | • | | Water | Soil |
| | d4-1,2-Dichloroethane: 92 | • | 76-1144 | 70-121% |
| | d8-Toluene: 100 % | | 88-110% | 84-1381 |
| | p-BFB: 100 % | | 86-115% | 59-1134 |



Client: Clean Harbors of Chicago Sample ID: BORING #1 8/7 SAMPLE #1

CHAS Lab #: 90X08069-01AB Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

None Found VOA ---

Notesi

= mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 2

Sample Type: Soil

CHAS Lab #: 90X08069-02M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|------------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 37 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.75 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.66 | 156 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 46 | 330 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0835 | ND | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 5 5 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.9 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

Client: Clean Harbors of Chicago Sample ID: BORING #1, SAMPLE #2

Sample Type: Soil

CHAS Lab #: 90X08069-02H Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/10/90 Analysis Date: 08/18/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|-----------------------------|------|--------|--------------------------|-------|----------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3.3 | ND |
| 1,4-Dichlorobenzene | 3.3 | מא | Pyrene | 3.3 | ND |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | 3.3 | מא | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthala | e 6.7 | ND |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND . |
| bis(2-Chloroethoxy)Methane | 3.3 | ДИ | Benzo(b)Fluoranthene | 3.3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | 3.3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND |
| 4-Chloroaniline | 3.3 | ND | Indeno(1,2,3-cd)Pyrene | 3.3 | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | | | • |
| 2-Chloronaphthalene | 3.3 | ND | | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | HDL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3 | ND |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | ND |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3.3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphenol | 3.3 | ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 17 | ND |
| 4-Nitroaniline | 17 | ND | 2,4,5-Trichlorophenol | 17 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 17 | ND |
| 4-Bromophenyl-phenylether | 3.3 | ND | 4-Nitrophenol | 17 | ND |
| Hexachlorobenzene | 3.3 | ND | 4,6-Dinitro-2-methylphen | _ | ND |
| Phenanthrene | 3.3 | TR | Pentachlorophenol | 17 | ND |
| Anthracene | 3.3 | ND | reneuchi or ojmenoz | | |
| | | .,,, | QA/QC Surrogate Ro | ec. R | ange CLP |
| | | | du do portogue | | |
| | | | 2-Fluorophenol I | NAX 2 | 5 - 121% |
| | | | | • | 4 - 113% |
| | | | | NAX 2 | |
| | | | | NAX 2 | |
| | | | | NAZ 1 | |
| | | | | 186 1 | 7 - 1222 |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

NA = Not applicable



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 2

Sample Type: Soil

CHAS Lab #: 90X08069-02AE Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | MDL* | Conc.* | Parameter | HDL* | Conc.* |
|----------------------------|-------|--------|---------------------------|----------|--------|
| Priority Pollutant Compour | ids: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0,010 | ND | Tetrachloroethene | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.064 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | ND | Ethylbenzene | 0.005 | ND |
| Methylene Chloride | 0.005 | ND | • | | |
| Trichlorofluoromethano | 0.005 | ND | Hazardous Substance List | Compound | ls: |
| 1,1-Dichloroethene | 0.005 | ND | Acetone | 0.020 | 0.16 |
| 1.1-Dichloroethane | 0.005 | מא | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0,005 | ND | 2-Butanone | 0.020 | מא |
| Chloroform | 0.005 | מא | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methyl-2-Pentanone | 0.005 | ND |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | ND |
| 1,2-Dichloropropane | 0.005 | ND | | | |
| cis-1,3-Dichloropropene | 0.005 | מא | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromosthane (EDB) | 0.005 | NI |
| Benzene | 0.005 | 8 | Methyl-t-Butylether | 0.010 | מא |
| Dibromochloromethane | 0.005 | ND | 1,2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | ND | 1.3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1.4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | ND |
| Bronoform | 0.005 | ND | Acrylonitrile | 0.010 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received.
Additional compounds observed in sample

| QA/QC | Surrogate Recoveries: | | | Surrogate Accep | tance Criteria: |
|-------|------------------------|----|---|-----------------|-----------------|
| • • • | • | | | Water | Soil |
| | d4-1,2-Dichloroethane: | 91 | • | 76-114 | 70-121% |
| | d8-Toluene: 95 % | | ٠ | 88-110% | 84-138% |
| | p-BFB: 95 % | | | 86-115% | 59-113% |



Client: Clean Harbors of Chicago Sample ID: BORING #1 8/7 SAMPLE #2

CHAS Lab #: 90X08069-01AB Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|------------------------|----------|-----------------------------|
| 121-44-8 | N,N-Diethyl-Ethanamine | AOV | 0.027 |
| 5441-51-0 | 4-ethyl-Cyclohexanone | AOV | 0.009 |

Notes:

= mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 3

Soil Sample Type:

CHAS Lab #: 90X08069-03M

08/09/90 Date Received:

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 36 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.67 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.55 | 323 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 44 | 160 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0812 | ND | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 53 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 2.0 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL) * = mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 3

Sample Type: Soil

CHAS Lab #: 90X08069-03A Date Received: 08/09/90

Internal Code: US70

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

| Parameter | HDL* | Conc.* | Parameter | MDL* | Conc.* |
|----------------------------|-------|--------|---------------------------|----------|--------|
| Priority Pollutant Compour | ıds: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethans | 0.050 | מא | Tetrachloroethene | 0.025 | ND |
| Bromomethane | 0.050 | ND | Toluene | 0.025 | 3.5 |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chloroethane | 0.050 | ND | Ethylbenzene | 0.025 | TR |
| Methylene Chloride | 0.025 | TR | • | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | s: |
| 1,1-Dichloroethene | 0.025 | ND | Acatone | 0.100 | 0.96 |
| 1.1-Dichloroethane | 0.025 | ND | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2 - Butanone | 0.100 | ND |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | ND | 4-Methyl-2-Pentanone | 0.025 | 0.13 |
| 1,1,1-Trichloroethane | 0.025 | ND | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethane | 0.025 | ND | Total Xylones | 0.025 | ND |
| 1,2-Dichloropropane | 0.025 | מא | | • | |
| cis-1,3-Dichloropropene | 0.025 | ND | Additional Compounds: | | |
| Trichloroethene | 0.025 | ND | Dibromoethane (EDB) | 0.025 | ND |
| Benzene | 0.025 | 0.45 | Methyl-t-Butylether | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | ND |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | ND |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolein | 0.050 | ND |
| Bromoform | 0.025 | מא | Acrylonitrile | 0.050 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

 $\star = mg/kg$

Based on sample weight as received.

Additional compounds observed in sample

| QA/QC | Surrogate Recoveries: | | | Surrogate Acceptance Criteria: | | |
|-------|------------------------|----|---|--------------------------------|---------|--|
| | • | | | Water | Soil | |
| | d4-1,2-Dichloroethane: | 91 | • | 76-1144 | 70-121 | |
| | d8-Toluene: 94 % | | | 88-110% | 84-138% | |
| | mark. 00 s | | | 86-1158 | 50-1135 | |

Client: Clean Harbors of Chicago Sample ID: BORING #1 8/7 SAMPLE #3

CHAS Lab #: 90X08069-03AB Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Estimated Concentration*

121-44-8 N,N-Diethyl-Ethanamine VOA 0.040

Notes:

* = mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 4

Sample Type: Soil

CHAS Lab #: 90X08069-04M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|---|------------------------------------|--|--|--|---|
| Arsenic - Total Cadmium - Total Chromium - Total Lead - Total Mercury- Total Selenium - Total | 34 2.52 3.36 42 0.0611 | ND ND 152 150 0.0611 ND | 08/13/90 08/13/90 08/13/90 08/13/90 08/14/90 08/13/90 | 08/14/90 08/14/90 08/14/90 08/14/90 08/15/90 08/14/90 | 3050/6010(c) 3050/6010(c) 3050/6010(c) 3050/6010(c) 7470(c) 3050/6010(c) |
| Silver- Total | 1.8 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)
* = mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 1 Sample 4

Sample Type: Soil

CHAS Lab #: 90X08069-04AF Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

| Parameter | HDL* | Conc.* | Parameter | HDL* | Cone.* |
|----------------------------|-------|--------|---------------------------|----------|-----------|
| Priority Pollutant Compoun | ds: | , | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethane | 0.050 | ND | Tetrachlorocthene | 0.025 | ND |
| Bromomethane | 0.050 | ND | Toluene | 0.025 | 2,5 |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chloroethane | 0.050 | ND | Ethylbenzene | 0.025 | 0.034 |
| Methylene Chloride | 0.025 | TR | | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | s: |
| 1.1-Dichloroethene | 0.025 | ND | Acetone | 0.100 | 1.0 |
| 1,1-Dichloroethane | 0.025 | ND | Carbon Disulfide | 0.050 | מא |
| trans-1,2-Dichlorosthene | 0.025 | ND | 2-Butanone | 0.100 | ND |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | ND | 4-Methy1-2-Pentanone | 0.025 | 0.36 |
| 1,1,1-Trichloroethane | 0.025 | ND | 2-Hexanone | 0.025 | מא |
| Carbon Tetrachlorida | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethane | 0.025 | ND | Total Xylenes | 0.025 | 0.13 |
| 1,2-Dichloropropane | 0.025 | ND | | | |
| cis-1,3-Dichloropropene | 0.025 | ND | Additional Compounds: | | |
| Trichloroethene | 0.025 | ND | Dibromoethane (EDB) | 0.025 | 1 |
| Benzene | 0.025 | 0.96 | Methyl-t-Butylether | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | nd |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzone | 0.025 | ND |
| trans-1,3-Dichloropropens | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | ND |
| 2-Chloroethylvinylether | 0.050 | ND | | 0.050 | ND |
| Bromoform | 0.025 | ND | Acrylonitrile | 0.050 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below NDL

* - mg/kg

Based on sample weight as received.
Additional compounds observed in sample

| QA/QC | Surrogate Recoveries: | Surrogate Acceptance Criteria | | |
|-------|---------------------------|-------------------------------|---------|---------|
| | _ | | Water | Soil |
| | d4-1,2-Dichloroethane: 88 | • | 76-1144 | 70-1218 |
| | d8-Toluene: 95 % | | 88-1104 | 84-138 |
| | p-BFB: 103 % | | 86-1154 | 59-113% |



Client: Clean Harbors of Chicago ample ID: BORING #1 8/7 SAMPLE #4

CHAS Lab #: 90X08069-04AB Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|------------------------|----------|-----------------------------|
| | unknown compound | VOA | 0.110 |
| 60-29-7 | Ethyl ether | AOV | 0.060 |
| 121-44-8 | N,N-diethyl-Ethanamine | ⊇ VOA | 0.260 |
| 626-93-7 | 2-Hexanol | VOA | 0.065 |

Notesi

= mg/kg



Client: Clean Harbors of Chicago

CHAS Lab #: 90X08069-05M Date Received: 08/09/90

Sample I.D.: Boring 2 Sample 1 Sample Type: Soil

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 30 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.22 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 2.96 | 152 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 37 | 260 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0765 | ND | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 44 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.9 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

CleanHarbors

Client: Clean Harbors of Chicago Sample ID: BORING #2, SAMPLE #1

Sample Type: Soil

CHAS Lab #: 90X08069-05M Date Received: 08/09/90 Internal Code: SS90

18 - 1372

98%

Terphenyl-D14

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/15/90 Analysis Date: 08/17/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|-----------------------------|------|--------|----------------------------|-------|---------|
| bis(2-Chloroethyl)Bther | 1.7 | ND | Di-n-Butylphthalate | 1.7 | ND |
| 1,3-Dichlorobenzene | 1.7 | ND | Pluoranthene | 1.7 | ND |
| 1,4-Dichlorobenzene | 1.7 | ND | Pyrene | 1.7 | ND |
| 1,2-Dichlorobenzene | 1.7 | ND | Butylbenzylphthalate | 1.7 | ND |
| bis(2-Chloroisopropyl)Ether | 1.7 | ND . | 3,3'-Dichlorobenzidine | 3.3 | ND |
| N-Nitroso-Di-n-Propylamine | 1.7 | ND | Benzo(a)Anthracene | 1.7 | ND |
| Hexachloroethane | 1.7 | ND | bis(2-Ethylhexyl)Phthalate | 3.3 | ND |
| Nitrobenzene | 1.7 | ND | Chrysene | 1.7 | ND |
| Isophorone | 1.7 | ND | Di-n-Octylphthalate | 1.7 | ND |
| bis(2-Chloroethoxy)Methane | 1.7 | ND | Benzo(b)Fluoranthene | 1.7 | ND |
| 1,2,4-Trichlorobenzene | 1.7 | ND | Benzo(k)Fluoranthene | 1.7 | ND |
| Naphthalene | -1.7 | TR | Benzo(a)Pyrene | 1.7 | ND |
| 4-Chloroaniline | 1.7 | ND | Indeno(1,2,3-cd)Pyrene | 1.7 | ND |
| Hexachlorobutadiene | 1.7 | ND | Dibenz(a,h)Anthracene | 1.7 | ND |
| 2-Methylnaphthalene | 1.7 | ND | Benzo(g,h,i)Perylene | 1.7 | ND |
| Hexachlorocyclopentadiene | 1.7 | ND | | | |
| 2-Chloronaphthalene | 1.7 | ND | | | |
| 2-Nitroaniline | 8.3 | ND | Acid Compounds | MDL* | Conc.* |
| Dimethyl Phthalate | 1.7 | ND | • | | |
| Acenaphthylene | 1.7 | ND | Phenol | 1.7 | ND |
| 3-Nitroaniline | 8.3 | ND | 2-Chlorophenol | 1.7 | ND |
| Acenaphthene | 1.7 | ND | 2-Methylphenol | 1.7 | ND |
| Dibenzofuran | 1.7 | ND | 4-Methylphenol | 1.7 | סא |
| 2.4-Dinitrotoluene | 1.7 | ND | 2-Nitrophenol | 1.7 | ND |
| 2,6-Dinitrotoluene | 1.7 | ND | 2,4-Dimethylphenol | 1.7 | ND |
| Diethylphthalate | 1.7 | ND | 2,4-Dichlorophenol | 1.7 | ND |
| 4-Chlorophenyl-phenylether | 1.7 | ND | 4-Chloro-3-methylphenol | 1.7 | ND |
| Fluorene | 1.7 | ND | 2,4,6-Trichlorophenol | 8.3 | ND . |
| 4-Nitroaniline | 8.3 | ND | 2,4,5-Trichlorophenol | 8.3 | ND |
| N-Nitrosodiphenylamine | 1.7 | ND | 2,4-Dinitrophenol | 8.3 | ND |
| 4-Bromophenyl-phenylether | 1.7 | ND | 4-Nitrophenol | 8.3 | ND |
| Hexachlorobenzene | 1.7 | ND | 4,6-Dinitro-2-methylpheno | 8.3 | ND |
| Phenanthrene | 1.7 | ND | Pentachlorophenol | 8.3 | ND |
| Anthracene | 1.7 | ND | • | | |
| • | | | QA/QC Surrogate Rec | . Ra | nge CLP |
| | | | | | - 121% |
| | | | Phenol-D5 119 | | - 113% |
| | | | Nitrobenzene-D5 110 | 23 | - 120% |
| | | | 2-Fluorobiphenyl 122 | | - 121X |
| | | | | 32 19 | - 122X |
| | | | | | 4 4 7 8 |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-05.

Data Received: 08/09/9

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | MDL* | Conc.* | Parameter | MDL* | Conc. |
|----------------------------|-------|--------|---------------------------|----------|------------|
| Priority Pollutant Compour | ids: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroetheno | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.007 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | ND | Ethylbenzene | 0.005 | ND |
| Methylene Chloride | 0.005 | ND | | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | : : |
| 1,1-Dichlorosthene | 0.005 | ND | Acetone | 0.020 | 0.21 |
| 1,1-Dichlorosthane | 0.005 | ND | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | ND |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methyl-2-Pentanone | 0.005 | ND |
| 1,1,1-Trichloroethane | 0.005 | מא | 2-Hexanone | 0.005 | ND |
| Carbon Tatrachloride | 0.005 | ND | Styrene | 0.005 | ND. |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | 0.011 |
| 1,2-Dichloropropane | 0.005 | ND | • | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromoethane (EDB) | 0.005 | } |
| Benzene | 0.005 | 0.006 | Mathyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | ND | 1.2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | ND | 1,3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobonzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | מא |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

t - mg/kg

Based on sample weight as received.

Additional peaks observed in sample analysis.

Additional compounds observed in sample

| QA/QC | Surrogate Recoveries: | Surrogate Acceptance Criteria: | | |
|-------|---------------------------|--------------------------------|---------|---------|
| | | | Water | Soil |
| | d4-1,2-Dichloroethane: 82 | • | 76-1144 | 70-121 |
| | d8-Toluene: 99 % | | 88-1104 | 84-138% |
| | p-BFB: 97 % | | 86-115% | 59-113% |



Client: Clean Harbors of Chicago
Sample ID: BORING #2 SAMPLE #1

CHAS Lab #: 90X08069-05A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Estimated Concentration*

121-44-8 N,N-diethyl-Ethanamine VOA 0.029

Notes:

 $\star = mg/kg$



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 2

Sample Type: Soil

CHAS Lab #: 90X08069-06M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|------------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 3 2 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.40 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.21 | 373 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 40 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0649 | 0.1298 | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 48 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.4 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg



Client: Clean Harbors of Chicago Sample ID: BORING #2, SAMPLE #2

Sample Type: Soil

CHAS Lab #: 90X08069-06M Date Received: 08/09/90

19 - 122%

18 - 137%

NAZ NAX

Internal Code: SS90

2,4,6-Tribromophenol

Terphenyl-D14

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/15/90 Analysis Date: 08/18/90

| Base/Neutral Compounds | HDI.* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|----------------------------------|-------------|--------|---------------------------|-------------|----------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3.3 | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | 3.3 | ND |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | 3.3 | ND | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthalat | e 6.7 | ND |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3.3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Pluoranthene | 3.3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND |
| 4-Chloroaniline | 3.3 | ND | Indeno(1,2,3-cd)Pyrene | 3.3 | ND ' |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Methylnaphthalene | 3 .3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | | | |
| 2-Chloronaphthalene | 3.3 | ND | | | |
| 2-Nitroaniline | 8.3 | ND | Acid Compounds | MDL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3 | ND |
| 3-Nitroaniline | 8.3 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | NU |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3.3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3. 3 | ND |
| 4-Chlorophenyl-phenylether | 3 .3 | ND | 4-Chloro-3-methylphenol | 3.3 | ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 8.3 | ND |
| 4-Nitroaniline | 8.3 | ND | 2,4,5-Trichlorophenol | 8.3 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 8.3 | ND |
| 4-Bromophenyl-phenylether | 3 .3 | ND | 4-Nitrophenol | 8.3 | ND |
| Hexachlorobenzene | 3.3 | ND | 4,6-Dinitro-2-methylpheno | 1 8.3 | ND |
| Phenanthrene | 3.3 | ND | Pentachlorophenol | 8.3 | ND |
| Anthracene | 3.3 | ND | | | |
| | | | QA/QC Surrogate Re | c. R | ange CLP |
| • | | | | | 5 - 121% |
| | | | | | 4 - 113% |
| | | - | | | 3 - 120% |
| | • | | 2-Fluorobiphenyl N | | 5 - 121% |
| | | | | | |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

NA - Not applicable



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 2

Sample Type: Soil

CHAS Lab #: 90X0P 06 Date Received: /9

Internal Code: VS/U

Volatile Organics - System A by EPA Mothod 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | MDL* | Conc.★ | Parameter | MDL# | Conc. |
|----------------------------|-------|--------|---------------------------|----------|-----------|
| Priority Pollutant Compour | nds: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroethene | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.038 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | ND | Ethylbenzene | 0.005 | 0.010 |
| Methylene Chloride | 0.005 | ND | • | | |
| Trichlorofluoromethane | 0.005 | מא | Hazardous Substance List | Compound | : |
| 1,1-Dichloroethene | 0.005 | ND | Acetone | 0.020 | 0.87 |
| 1,1-Dichloroethane | 0.005 | ND | Carbon Disulfide | 0.010 | . ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | TR |
| Chloroform | 0.005 | ИD | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methyl-2-Pentanone | 0.005 | ND |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | ***** |
| 1,2-Dichloropropane | 0.005 | ND | | | 1 |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromoethane (EDB) | 0.005 | ND |
| Benzene | 0.005 | 0.037 | Methyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | ND | 1.2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | ND | 1,3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0,010 | ND | Acrolein | 0.010 | ND |
| Bromoform | 0.005 | ND . | Acrylonitrile | 0.010 | ND |

Notes ND = Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

 $\star - mg/kg$

Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

Vater Scil

d4-1,2-Dichloroethane: 81 % 76-114% 70-121%

d8-Toluene: 93 % 88-110% 84-138%

p-BFB: 89 % 86-115% 59-113%



Client: Clean Harbors of Chicago Sample ID: BORING #2 SAMPLE #2

CHAS Lab #: 90X08069-06A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | raction | Estimated Concentration* |
|------------------------|--|---------|--------------------------|
| 75-97-8 | 3,3-dimethyl-2-Butanone | . VOA | 0.006 |
| 121-44-8 17348-59-3 | N,N-diethyl-Ethanamine 2-methyl-2-(1-methyl | AOV | 0.018 |
| | ethoxy)-Propane | AOV | 0.017 |

Notes:

+ = mg/kg



Client: Clean Harbors of Chicago

Sample I.D.: Boring 2 Sample 3

Sample Type: Soil

CHAS Lab #: 90X08069-07M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 32 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.43 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.24 | 286 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 41 | 250 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0631 | 0.0947 | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 49 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.6 | ИD | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg



Client: Clean Harbors of Chicago Sample ID: BORING #2, SAMPLE #3

Sample Type: Soil

CHAS Lab #: 90X08069-07M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/15/90

Extraction Date: UB/15/90 Analysis Date: UB/18/90

| Discalchiorophysecond Disc | Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | HDL* | Conc.* |
|---|-----------------------------|-------------|--------|------------------------|-------|---------|
| 1,4-Dichlorobenzene 3.3 ND | bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 | ND |
| 1,2-Dichlorobenzene | 1,3-Dichlorobenzene | 3.3 | ND | Pluoranthene | 3.3 | ND |
| 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | _ | ND |
| bis(2-Chloroisopropyl)Ether | 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | _ | ND |
| N-Nitroso-Di-n-Propylamine 3.3 ND Benzo(a)Anthracene 3.3 ND Nitrobenzene 3.3 ND Dis(2-Ethylhexyl)Phthalate 6.7 ND Nitrobenzene 3.3 ND Chrysene 3.3 ND Di-n-Octylphthalate 3.3 ND Acenaphthylene 3.3 ND Acenaphthyl | bis(2-Chloroisopropyl)Ether | 3.3 | ND | | - | ND |
| Discretable 3.3 ND | N-Nitroso-Di-n-Propylamine | 3.3 | ND | | 3.3 | |
| Nitrobenzene 3.3 | Hexachloroethane | 3.3 | ND | | | |
| Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND Dis(2-Chloroethoxy)Hethane 3.3 ND Benzo(b)Fluoranthene 3.3 ND ND Naphthalene | Nitrobenzene | 3.3 | ND | | | ND |
| Dis(2-Chloroethoxy)Methane 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND Naphthalene | Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | |
| 1,2,4-Trichlorobenzene | bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3.3 | |
| Naphthalene | 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | | |
| ## Chloroaniline | Naphthalene | -3.3 | TR | Benzo(a)Pyrene | | |
| Dibenz(a,h)Anthracene 3.3 ND | 4-Chloroaniline | 3.3 | ND | Indeno(1,2,3-cd)Pyrene | | |
| 2-Methylnaphthalene | Hexachlorobutadiene | 3.3 | ND | | | |
| Hexachlorocyclopentadiene 3.3 ND 2-Chloronaphthalene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds HDL* Conc.* Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Acenaphthylene 17 ND 2-Chlorophenol 3.3 ND Acensphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 2-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dimethylphenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dimitrophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dimitrophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 4-Chloro-2-methylphenol 17 ND Hexachlorobenzene 3.3 ND 4-Dimitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Dimitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Dimitrophenol 17 ND Anthracene 3.3 ND 4-Nitrophenol 17 ND | 2-Methylnaphthalene | -3.3 | 2.6 | | | |
| 2-Chloronaphthalene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc.* Dimethyl Phthalate 3.3 ND Phenol | | | | | | |
| 2-Nitroaniline Dimethyl Phthalate Acenaphthylene 3.3 ND Acenaphthylene 3.3 ND Acenaphthylene 3.3 ND Acenaphthylene 3.3 ND Acenaphthene 3.3 ND Acenaphthylene 3.3 ND Acenaphtylene 3.3 ND Acenaphthylene 3.3 | | | ND | | | |
| Dimethyl Phthalate | | 17 | ND | Acid Compounds | HDL* | Conc.* |
| Acenaphthylene 3.3 ND Phenol | Dimethyl Phthalate | 3.3 | ND | | • | |
| 3-Nitroaniline | ▼ | 3.3 | ND | Pheno1 | 3.3 | 11 |
| Acemaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chloro-3-methylphenol 3.3 ND 4-Chloro-3-methylphenol 3.3 ND 4-Nitroaniline 17 ND 2,4,6-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND Anthracene Rec. Range CLP < | 3-Nitroaniline | . 17 | ND | | | |
| Dibenzofuran 2,4-Dinitrotoluene 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | Acenaphthene | 3.3 | ND | | | |
| 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND 4-Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 2,4-Dinitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | • | 3.3 | ND | | | |
| 2,6-Dinitrotoluene 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND 4-Nitroaniline 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND Phenanthrene 3.3 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | 2,4-Dinitrotoluene | 3.3 | ND | | | |
| Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND 4-Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4-Olinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | · | 3.3 | ND | • | | |
| 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND 4-Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | · | 3.3 | ND | | | |
| Fluorene 3.3 ND 2,4,6-Trichlorophenol 17 ND 4-Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | | 3 .3 | ND | | | |
| 4-Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | • • • | 3.3 | ND | | | |
| N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | | | ND | | | |
| 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | N-Nitrosodiphenylamine | 3.3 | ND | | | |
| Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | | 3.3 | ND | | | |
| Phenanthrene 3.3 ND Pentachlorophenol 17 ND Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | | 3.3 | ND | • • | | |
| Anthracene 3.3 ND QA/QC Surrogate Rec. Range CLP | | 3.3 | ND | | | |
| | Anthracene | 3.3 | ND | • | | |
| 2 Pluggaphanal NAW 25 1219 | | | | QA/QC Surrogate Re | c. Ra | nge CLP |
| 2-F1010billio1 | · | | • | 2-Fluorophenol N | AX 25 | - 121% |
| Phenol-D5 NAX 24 - 113X | | | | | | |
| Nitrobenzene-D5 NAX 23 - 120X | | | | | | |
| 2-Pluorobiphenyl NAX 25 - 121X | | | | | | |
| 2,4,6-Tribromophenol NAX 19 - 122X | | | | | | |
| Terphenyl-D14 NAX 18 - 137X | | | | | | |

Notes: ND = Below minimum detectable level (MDL)

^{* =} mg/kg based on sample weight as recieived

TR = Trace amount present below MDL

NA = Not applicable



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 3

Sample Type: Soil

CHAS Lab #: 90X08069-07A Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | MDL* | Conc.* | Parameter | MDL* | Conc.* |
|----------------------------|-------|--------|---------------------------|----------|--------|
| Priority Follutant Compour | nds: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroethene | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.14 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | מא | Ethylbenzene | 0.005 | 0.019 |
| Methylene Chloride | 0.005 | TR | • | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | is: |
| 1.1-Dichlorosthene | 0.005 | ND | Acetone | 0.020 | 0.82 |
| 1.1-Dichloroethane | 0.005 | מא | Carbon Disulfida | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | MD | 2-Butanone | 0.020 | 0.027 |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | TR | 4-Methy1-2-Pentanone | 0.005 | 0.074 |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ИD | Styrene | 0.005 | TR |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | 0.12 |
| 1.2-Dichloropropane | 0.005 | ND | • | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromoethane (EDB) | 0.005 | N |
| Benzene | 0.005 | 0.32 | Methyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | ND | 1,2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | ND | 1.3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | ND |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* = mg/kg

Based on sample weight as received.
Additional compounds observed in sample

| QA/QG | Surrogate Recoveries: | | | Surrogate Accep | Acceptance Criteria: | |
|-------|------------------------|----|---|-----------------|----------------------|--|
| • | • | | | Water | Soil | |
| | d4-1,2-Dichloroethane: | 85 | • | 76-114 | 70-121% | |
| | d8-Toluene: 92 % | | • | 88-110% | 84-138% | |
| | naRPR. Of a | | | 96_1186 | 50-1134 | |



Client: Clean Harbors of Chicago Sample ID: BORING #2 SAMPLE #3 CHAS Lab #: 90X08069-07A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Praction | Estimated Concentration* |
|------------|---------------------------|----------|--------------------------|
| 67-63-0 | 2-Propanol | AOV | 0.025 |
| 75-50-3 | N, N-dimethyl-Methanamine | VOV | 0.016 |
| 60-29-7 | Ethyl Ether | VOA | 0.007 |
| 6707-88-6 | octahydro-1,3,4-Metheno | VOA | |
| | 1H-Cyclobuta-{cd}Pentale | ne VOA | 0.010 |
| | Hydrocarbon | VOA | 0.033 |

Notes:

= mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 4

Sample Type: Soil

CHAS Lab #: 90X08069-08M

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|------------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 36 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.73 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.64 | 964 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 45 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0660 | ND | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 5 5 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.7 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 4

Sample Type: Soil

CHAS Lab #: 90X08069-C Date Received: 08/09/

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

| Parameter | NDL* | Conc.* | Parameter | HDL* | Conc |
|----------------------------|-------|--------|---------------------------|----------|------|
| Priority Pollutant Compour | ıds: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethane | 0.050 | ND | Tetrachloroethene | 0.025 | ND |
| Bromomethane | 0.050 | מא | Toluane | 0.025 | 0.70 |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chloroethane | 0.050 | ND | Ethylbenzene | 0.025 | 0.04 |
| Methylene Chloride | 0.025 | TR | • | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | |
| 1,1-Dichlorosthens | 0.025 | ND | Acotono | 0,100 | 1.4 |
| 1,1-Dichloroethane | 0.025 | ND | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2-Butanone | 0.100 | ND |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | ND | 4-Methyl-2-Pentanone | 0.025 | 0.20 |
| 1,1,1-Trichloroethane | 0.025 | ND | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | TR |
| Browodichloromethane | 0.025 | ND | Total Xylenes | 0.025 | 0.30 |
| 1,2-Dichloropropane | 0.025 | ND | | | |
| cis-1,3-Dichloropropene | 0.025 | ND | Additional Compounds: | | |
| Trichlorosthens | 0.025 | ND | Dibromoethane (EDB) | 0.025 | ND |
| Benzene | 0.025 | 4.1 | Methyl-t-Butylether | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | ND |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | ND |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolein | 0,050 | 0.37 |
| Bromoform | 0.025 | ND | Acrylonitrils | 0.050 | ND |

Notes

ND - Below minimum detectable lovel (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received. No additional peaks observed in sample

| QA/QC | Surrogate Recoveries: | | | | Surrogate Accep | tance Criteria: |
|-------|------------------------|----|---|---|-----------------|-----------------|
| | | | | | Water | Soil |
| | d4-1,2-Dichloroethane: | 86 | 1 | | 76-114 | 70-121% |
| | d8-Toluene: 96 % | | | | 88-110% | 84-138% |
| | p-BFB: 95 % | | | , | 86-115% | 59-1134 |



Client: Clean Harbors of Chicago Sample ID: BORING #2 SAMPLE #4

CHAS Lab #: 90X08069-08AB Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|------------|----------|-----------------------------|
| | None Found | VOA | |

Notes:

* = mg/kg



Client: Clean Harbors of Chicago Sample I.D.: Boring 3 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-09M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|---|---|--|--|--|---|
| Arsenic - Total Cadmium - Total Chromium - Total Lead - Total Mercury- Total Selenium - Total Silver- Total | 34 2.51 3.35 42 0.0575 50 1.7 | ND 5.53 531 400 0.1724 ND ND | 08/13/90 08/13/90 08/13/90 08/13/90 08/14/90 08/13/90 | 08/14/90 08/14/90 08/14/90 08/14/90 08/15/90 08/14/90 08/14/90 | 3050/6010(c) 3050/6010(c) 3050/6010(c) 3050/6010(c) 7470(c) 3050/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg



Client: Clean Harbors of Chicago Sample ID: BORING #3, SAMPLE #1

Sample Type: Soil

CHAS Lab #: 90X08069-09M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/15/90 Analysis Date: 08/18/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compound | в М | DL* | Conc.* |
|-----------------------------|-------------|--------|-----------------------------------|--------|-----|---------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3 | .3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3 | .3 | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | 3 | .3 | TR |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3 | . 3 | ND |
| bis(2-Chloroisopropyl)Ether | 3.3 | ND | 3,3'-Dichlorobenziding | | .7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3 | .3 | TR |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phtha | | | |
| Nitrobenzene | 3.3 | ND | Chrysene | 3 | . 3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3 | . 3 | ND |
| bis(2-Chloroethoxy)Methane | 3 .3 | ND | Benzo(b)Fluoranthene | 3 | .3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene- | 3 | .3 | 5.6 |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | | | |
| 4-Chloroaniline | | 9.4 | <pre>lndeno(1,2,3-cd)Pyreno</pre> | e3 | . 3 | TR |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | | | |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene- | | | |
| Hexachlorocyclopentadiene | 3 .3 | ND | | | | |
| 2-Chloronaphthalene | 3.3 | ND | | | | |
| 2-Nitroaniline | 1.7 | ND | Acid Compounds | M | DL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | • • | | | |
| Acenaphthyleпе | 3.3 | ND | Phenol | 3 | . 3 | TR |
| 3-Nitroaniline | 1.7 | ND | 2-Chlorophenol | . 3 | . 3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3. | . 3 | ND |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3. | . 3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3. | . 3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3 | . 3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3 | . 3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylpheno | 1 3 | . 3 | ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | . 1 | . 7 | ND |
| 4-Nitroaniline | 1.7 | ND | 2,4,5-Trichlorophenol | 1 | .7 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 1. | . 7 | ND |
| 4-Bromophenyl-phenylether | 3.3 | סא | 4-Nitrophenol | 1 | .7 | ND |
| Hexachlorobenzene | -3.3 | 23 | 4,6-Dinitro-2-methylph | enol 1 | .7 | ND |
| Phenanthrene | 3.3 | סא | Pentachlorophenol | | . 7 | ND |
| Anthracene | 3.3 | ND | • | | | |
| | | | QA/QC Surrogate | Rec. | Rer | ige CLP |
| | | | 2-Fluorophenol | NAX | 25 | - 121% |
| | • | | Phenol-D5 | NAX | 24 | - 113% |
| | | | Ni trobenzene-D5 | NAX | 23 | - 120% |
| | | | 2-Fluorobiphenyl | NAX | | - 121% |
| • | | | 2,4,6-Tribromophenol | NAX | | - 122X |
| | | | | | | |

Notes: ND - Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR - Trace amount present but below MDL

NA = Not applicable



Client: Clean Harbors of Chicago Sample I.D.: Boring 3 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-09 Date Received: 08/09/9

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

| Parameter | HDL* | Conc.* | Parameter | HDL* | Conc. |
|----------------------------|-------|--------|---------------------------|----------|-------|
| Priority Pollutant Compour | ids: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethane | 0.050 | ND | Tetrachloroethene | 0.025 | ND |
| Bromomethane | 0.050 | ND | Toluene | 0.025 | ИD |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chlorosthane | 0.050 | ИD | Ethylbenzene | 0.025 | ND |
| Methylene Chloride | 0.025 | ND | | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | ie: |
| 1,1-Dichloroethene | 0.025 | ИD | Acetone | 0.100 | TR |
| 1.1-Dichloroethane | 0.025 | ND | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2-Butanone | 0.100 | ND |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | ND | 4-Methyl-2-Pentanone | 0.025 | ND |
| 1.1.1-Trichloroethane | 0.025 | ND | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethans | 0.025 | ND | Total Xylenes | 0.025 | ND |
| 1,2-Dichloropropane | 0.025 | ND | • | | |
| cis-1,3-Dichloropropene | 0.025 | ND | Additional Compounds: | | |
| Trichloroethene | 0.025 | ND | Dibromoethane (EDB) | 0.025 | ND |
| Benzene | 0.025 | ND | Methyl-t-Butylether | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzone | 0.025 | ND |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | ND |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolein | 0.050 | ND |
| Bromoform | 0.025 | ND | Acrylonitrile | 0.050 | ND |

Notes ND = Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received. No additional peaks observed in sample

| QA/QC | Surrogate Recoveries: | | Surrogate Acceptance Critoria: | | |
|-------|------------------------|----|--------------------------------|---------|---------|
| • • | | | • | Water | Soil |
| | d4-1,2-Dichloroethane: | 83 | • | 76-1144 | 70-121% |
| | d8-Toluene: 95 % | | | 88-1104 | 84-138% |
| | p-BFB: 92 % | | | 86-115% | 59-113% |

Client: Clean Harbors of Chicago Sample ID: BORING #3 SAMPLE #1

CHAS Lab #: 90X08069-09A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

None Found VOA ---

Notes:

 $\star = mg/kg$



Client: Clean Harbors of Chicago

Sample I.D.: Boring 3 Sample 2 Sample Type: Soil

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 31 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.35 | 4.46 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.13 | 1,320 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 39 | 300 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0588 | 0.0883 | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 47 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.4 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

CHAS Lab #: 90X08069-101

08/09/90

Date Received:

ND - Below minimum detyectable level (MDL) Notes:

* = mg/kg



Client: Clean Harbors of Chicago Sample ID: BORING #3, SAMPLE #2

Sample Type: Soil

CHAS Lab #: 90X08069-10M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/15/90 Analysis Date: 08/18/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|---|-------------------------|----------------------|--|----------------------------|----------------------|
| bis(2-Chloroethyl)Ether | 3.3 | ДИ | Di-n-Butylphthalate | 3.3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | -3.3 | TR |
| 1,4-Dichlorobenzene | -3.3 | 4.0 | Pyrene | | |
| 1,2-Dichlorobenzene | | | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | | ND | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND. | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthalate | 6.7 | ND |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3.3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | 3.3 | ND . |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND |
| 4-Chloroaniline | 3.3 | ND | <pre>Indeno(1,2,3-cd)Pyrene</pre> | 3.3 | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | • | | |
| 2-Chloronaphthalene . | 3.3 | ND | | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | MDL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3 | ND) |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | . ND |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3.3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphenol | 3.3 | ND |
| | | | | | 2 550 |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 17 | ND |
| Fluorene 4-Nitroaniline | 3.3 17 | ND ND | 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol | 17 17 | ND UND |
| - · · · · · · · · · · · · · · · · · · · | | | | 17 17 | |
| 4-Nitroaniline | 17 | ND | 2,4,5-Trichlorophenol | 17 17 17 | ND |
| 4-Nitroaniline N-Nitrosodiphenylamine 4-Bromophenyl-phenylether Hexachlorobenzene | 17 3.3 3.3 3.3 | ND ND | 2,4,5-Trichlorophenol 2,4-Dinitrophenol | 17 17 17 17 | ND ND ND ND |
| 4-Nitroaniline N-Nitrosodiphenylamine 4-Bromophenyl-phenylether | 17 3.3 3.3 3.3 | ND ND ND | 2,4,5-Trichlorophenol 2,4-Dinitrophenol 4-Nitrophenol | 17 17 17 | ND ND ND |
| 4-Nitroaniline N-Nitrosodiphenylamine 4-Bromophenyl-phenylether Hexachlorobenzene | 17 3.3 3.3 3.3 | ND ND ND ND | 2,4,5-Trichlorophenol 2,4-Dinitrophenol 4-Nitrophenol 4,6-Dinitro-2-methylphenol | 17 17 17 17 17 | ND ND ND ND |

| day do surrogate | vec. | verde on | | |
|----------------------|------|-------------------|--|--|
| 2-Fluorophenol | NAX | 25 - 121% | | |
| Phenol-D5 | NAX | 24 - 113X | | |
| Nitrobenzene-D5 | NAX | 23 - 120 % | | |
| 2-Fluorobiphenyl | NAX | 25 - 121X | | |
| 2,4,6-Tribromophenol | NAX | 19 - 122% | | |
| Terphenyl-D14 | NAX | 18 - 137X | | |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR - Trace amount present but below MDL

NA - Not applicable



Sample Type: Soil

CHAS Lab #: 90X08069-10 Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

| Parameter | MDL* | Conc.* | Parameter | MDLw | Conc. |
|----------------------------|-------|--------|---------------------------|----------|----------|
| Priority Pollutant Compour | ids: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethane | 0.050 | ND | Tetrachloroethene | 0.025 | ND |
| Bromomethane | 0.050 | ND . | Toluene | 0.025 | מא |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chloroethane | 0.050 | ND | Ethylbenzene | 0.025 | מא |
| Methylene Chloride | 0.025 | ND | • | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | la: |
| 1,1-Dichloroethene | 0.025 | ND | Acetone | 0.100 | 0.10 |
| 1.1-Dichlorosthans | 0.025 | ИD | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2-Butanone | 0.100 | ND |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1.2-Dichloroethane | 0.025 | ND | 4-Methyl-2-Pentanone | 0.025 | ND |
| 1.1.1-Trichloroethans | 0.025 | ND | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethane | 0.025 | ND | Total Xylenes | 0.025 | ND |
| 1,2-Dichloropropane | 0.025 | ND | | , | <u>-</u> |
| cis-1,3-Dichloropropene | 0.025 | ND | Additional Compounds: | | |
| Trichloroethene | 0.025 | ND | Dibromocthane (EDB) | 0.025 | ND |
| Benzene | 0.025 | ND | Methyl-t-Butylethor | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | 2.5 |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | מא |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolein | 0.050 | ND |
| Bromoform | 0.025 | ND | Acrylonitrile | 0.050 | ND |

Notes ND - Below minimum detectable level (MDL)

TR = Trace amount present but below MDL

* - BE/kg

Based on sample weight as received. No additional peaks observed in sample

| QA/QC | Surrogate Recoveries: | | Surrogate Accept | tance Criteria: |
|-------|---------------------------|----------|------------------|-----------------|
| | - | | Water | Soil |
| | d4-1,2-Dichlorosthame: 88 | . | 76-1144 | 70-121% |
| | d8-Toluene: 97 % | | 88-110% | 84-138 |
| | p-BFB: 106 % | | 86-115% | 59-113% |



Client: Clean Harbors of Chicago Sample ID: BORING #3 SAMPLE #2

CHAS Lab #: 90X08069-10A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|------------|----------|-----------------------------|
| | None Found | VOA | |

Notes:

 $\star = mg/kg$



Sample Type: Soil

CHAS Lab #: 90X08069-11M Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|---|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total Cadmium - Total Chromium - Total Lead - Total Mercury- Total Selenium - Total Silver- Total | 32 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 2.39 | 2.55 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 3.18 | 380 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 40 | 180 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 0.0614 | 0.0614 | 08/14/90 | 08/15/90 | 7470(c) |
| | 48 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 1.5 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago Sample ID: BORING #3, SAMPLE #3

Sample Type: Soil

CHAS Lab #: 90X08069-11M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/15/90 Analysis Date: 08/18/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|-----------------------------|------|---------|----------------------------|-------------|---------|
| bis(2-Chloroethyl)Ether | 3.3 | ND . | Di-n-Butylphthalate | 3.3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3.3 | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | 3.3 | ND |
| 1,2.Dichlorobenzene | -3.3 | 8.0 | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | | ND | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthala | | ND |
| Ni trobenzene | 3.3 | ND | Chrysene | 3.3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | מא | Benzo(b)Fluoranthene | 3.3 | סא |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | 3.3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND |
| 4-Chloroaniline | 3.3 | ND | Indeno(1,2,3~cd)Pyrene | 3.3 | ND |
| Hexachlorobutadiene | 3.3 | מא | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Hethylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | 56.156 (8,11,1,1 to) - and | ••• | |
| 2-Chloronaphthalene | 3.3 | ND | | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | MDL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | mera ov-pomas | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3 | 8.7 |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | ND |
| Dibenzofuran | 3.3 | ND | 4Methylphenol | 3.3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3. 3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphenol | 3. 3 | ND · |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 17 | ND |
| 4-Nitroaniline | 17 | ND | 2,4,5-Trichlorophenol | 17 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 17 | ND |
| 4-Bromophenyl-phenylether | 3.3 | ND | 4-Nitrophenol | 17 | ND |
| Hexachlorobenzene | | | 4,6-Dinitro-2-methylpher | nol 17 | ND |
| Phenanthrene | 3.3 | ND | Pentachlorophenol | 17 | ND |
| Anthracene | 3.3 | ND | | | |
| | | | QA/QC Surrogate | Rec. Re | nge CLP |
| • | | | 2-Fluorophenol | NAZ 25 | - 1217 |
| | | | Phenol-D5 | | - 113% |
| • | | | Nitrobenzenc-D5 | | - 120% |
| | | • | 2-Fluorobiphenyl | | - 121% |
| | | | 2,4,6-Tribromophenol | | - 122% |
| | | | Terphenyl-D14 | | - 137X |
| | • | -11-1-1 | TET his pit - nia | | |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg baded on sample weight as received

NA - Not applicable



Sample Type: Soil

CHAS Lab #: 90X08069-11A

Date Received: 08/09/90

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Data: 08/13/90

| Parameter | MDL* | Conc.* | Parameter | HDL* | Conc. |
|----------------------------|-------|--------|---------------------------|----------|------------|
| Priority Pollutant Compour | ds: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethans | 0,050 | ND | Tetrachloroethene | 0.025 | ND |
| Bromomethane | 0.050 | ND | Toluene | 0.025 | TR |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | מא |
| Chloroethane | 0.050 | nd | Ethylbenzene | 0.025 | TR |
| Methylene Chloride | 0.025 | ND | • | | • |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | s : |
| 1.1-Dichloroethene | 0.025 | ND | Acetone | 0.100 | 0.28 |
| 1.1-Dichloroethane | 0.025 | ND | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2-Butanone | 0.100 | ИD |
| Chloroform | 0.025 | ND | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | ND | 4-Methyl-2-Pentanone | 0.025 | TR |
| 1,1,1-Trichloroethane | 0.025 | ND | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethane | 0.025 | ND | Total Xylenes | 0.025 | ND |
| 1,2-Dichloropropane | 0.025 | ND | | | |
| cis-1,3-Dichloropropens | 0.025 | ND | Additional Compounds: | | |
| Trichloroethene | 0.025 | ND | Dibromoethane (EDB) | 0.025 | ND |
| Benzene | 0.025 | 0.062 | Methyl-t-Butylether | 0.050 | ND |
| Dibromochloromethane | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | 1.3 |
| 1.1,2-Trichloroethane | 0.025 | ND | 1.3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1.4-Dichlorobenzene | 0.025 | ND |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolein | 0.050 | ND |
| Bromoform | 0.025 | ND | Acrylonitrile | 0.050 | ND |

Notes

ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received. No additional peaks observed in sample

| QA/QC | Surrogate Recoveries: | | | | Surrogate Accep | tance Criteria: |
|-------|------------------------|----|---|---|-----------------|-----------------|
| | - | | | | Vater | Soil |
| | d4-1,2-Dichloroethane: | 89 | • | | 76-1148 | 70-1214 |
| | d8-Toluene: 93 % | | | | 88-1104 | 84-1381 |
| | p-BFB: 106 % | | | • | 86-115% | 59-1134 |



Client: Clean Harbors of Chicago Sample ID: BORING #3 SAMPLE #3 CHAS Lab #: 90X08069-11A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

None Found VOA

Notes:

= mg/kg



Sample Type: Soil

CHAS Lab #: 90X08069-121
Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|---|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total Cadmium - Total Chromium - Total Lead - Total Mercury- Total Selenium - Total Silver- Total | 34 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 2.54 | 6.94 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 3.39 | 370 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 42 | 1,900 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 0.0764 | 0.4582 | 08/14/90 | 08/15/90 | 7470(c) |
| | 51 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| | 1.8 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

Soil/Solid samples based on sample dry weight.



Sample Type: Soil

CHAS Lab #: 90X08069-12 Data Received: 08/09/9

Internal Code: V

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

| Parameter | MDL* | Conc.* | Parameter | HDL* | Conc. |
|----------------------------|-------|--------|---------------------------|----------|------------|
| Priority Pollutant Compour | nds: | | 1,1,2,2-Tetrachloroethane | 0.025 | ND |
| Chloromethane | 0.050 | ND | Tetrachloroethene | 0.025 | 0.37 |
| Bromomethane | 0.050 | ND | Toluene | 0.025 | 4.0 |
| Vinyl Chloride | 0.050 | ND | Chlorobenzene | 0.025 | ND |
| Chloroethane | 0.050 | ИD | Ethylbenzene | 0,025 | 0.81 |
| Methylene Chloride | 0.025 | 0.59 | • | | |
| Trichlorofluoromethane | 0.025 | ND | Hazardous Substance List | Compound | s : |
| 1,1-Dichloroethene | 0.025 | ND | Acetone | 0.100 | 2.7 |
| 1,1-Dichloroethane | 0.025 | 0.026 | Carbon Disulfide | 0.050 | ND |
| trans-1,2-Dichloroethene | 0.025 | ND | 2-Butanone | 0.100 | 0.15 |
| Chloroform | 0.025 | 0.14 | Vinyl Acetate | 0.025 | ND |
| 1,2-Dichloroethane | 0.025 | 0.35 | 4-Methy1-2-Pentanone | 0.025 | ND |
| 1,1,1-Trichloroethane | 0.025 | 0.19 | 2-Hexanone | 0.025 | ND |
| Carbon Tetrachloride | 0.025 | ND | Styrene | 0.025 | ND |
| Bromodichloromethane | 0.025 | ND | Total Xylenes | 0,025 | 5.0 |
| 1,2-Dichloropropana | 0.025 | ND | • | | |
| cis-1,3-Dichloropropene | 0.025 | מא | Additional Compounds: | • | |
| Trichloroethene | 0.025 | 2.9 | Dibromoethane (EDB) | 0.025 | |
| Benzene | 0.025 | 0.32 | Mothyl-t-Butylether | 0.050 | ND |
| Dibromochloromethans | 0.025 | ND | 1,2-Dichlorobenzene | 0.025 | ND |
| 1,1,2-Trichloroethane | 0.025 | ND | 1,3-Dichlorobenzene | 0.025 | ND |
| trans-1,3-Dichloropropene | 0.025 | ND | 1,4-Dichlorobenzene | 0.025 | 0.040 |
| 2-Chloroethylvinylether | 0.050 | ND | Acrolain | 0.050 | ND |
| bromoform | 0.025 | מא | Acrylonitrile | 0.050 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

+ = mg/kg

Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries: Surrogate Acceptance Criteria: Water Soil

 d4-1,2-Dichloroethane:
 91 %
 76-114%
 70-121%

 d8-Toluene:
 97 %
 88-110%
 84-138%

 p-BFB:
 100 %
 86-115%
 59-113%



Client: Clean Harbors of Chicago Sample ID: BORING #3 SAMPLE #4 CHAS Lab #: 90X08069-12A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Praction | Estimated Concentration* |
|------------|------------------------|----------|-----------------------------|
| 96-37-7 | methyl-Cyclopentane | VOA | 0.055 |
| 5536-98-1 | 1-propyl-Aziridine | VOA | 0.095 |
| | Dimethyl Pentane Isome | r VOA | 0.150 |
| 589-34-4 | 3-methyl-Hexane | AOV | 0.270 |
| 106-35-4 | 3-Heptanone | VOA | 0.030 |
| 108-86-1 | Bromobenzene | VOA | 0.110 |
| | unkown compound | AOA | 0.040 |

Notes

= mg/kg



Client: Clean Harbors of Chicago

Sample I.D.: Boring 4 Sample 1

Sample Type: Soil

CHAS Lab #: 90X08069-13M

Date Received: 08/09/90

| | | D 14.4 | Digestion | Analysis | Method Number |
|------------------|------------|---------|-----------|----------|---------------|
| Parameter | MDL* | Result* | Date | Date | and Reference |
| Arsenic - Total | 36 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.73 | 2.73 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.64 | 473 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 45 | 180 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0741 | 0.0741 | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 5 5 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.8 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

ND - Below minimum detyectable level (MDL) Notes:

 $\star = mg/kg$

Soil/Solid samples based on sample dry weight.



Sample Type: Soil

CHAS Lab #: 90X08069-1 Date Received: 08/09/ Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

| Parameter | MDL* | Conc.* | Parameter | MDL* | Conc |
|----------------------------|-------|--------|---------------------------|----------|-------|
| Priority Pollutant Compoun | ids: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroethene | 0.005 | ND |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.22 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | 0.05 |
| Chloroethane | 0.010 | ND | Ethylbenzene | 0.005 | 0.09 |
| Methylene Chloride | 0.005 | TR | • | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | a : |
| 1,1-Dichloroethene | 0.005 | ND | Acetone | 0.020 | 0.21 |
| 1,1-Dichloroethane | 0.005 | ND | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | 0.040 |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methyl-2-Pentanone | 0,005 | ND |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | 0.44 |
| 1,2-Dichloropropane | 0.005 | ND | • | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichlorosthens | 0.005 | 0.043 | Dibromoethane (EDB) | 0.005 | ND |
| Benzene | 0.005 | 0.011 | Methyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | ND | 1,2-Dichlorobenzene | 0.005 | מא |
| 1,1,2-Trichloroethane | 0.005 | ND | 1,3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | מא |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* = mg/kg

Based on sample weight as received.
Additional compounds observed in sample

| QA/QC | QA/QC Surrogate Recoveries: | | | Surrogate Acceptance Criteria: | | |
|-------|-----------------------------|----|---|--------------------------------|---------|--|
| | | | | Water | Soil | |
| | d4-1,2-Dichloroethane: | 82 | • | 76-114% | 70-121% | |
| | d8-Toluene: 92 % | | | 88-110% | 84-138% | |
| | n.AFR 91 & | | | 86-1154 | 59-1139 | |



Client: Clean Harbors of Chicago Sample ID: BORING #4 SAMPLE #1 CHAS Lab #: 90X08069-13A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|-------------------------------------|----------|--------------------------|
| 96-37-7 | Methyl-Cyclopentane 3-methyl-Hexane | VOA | 0.010 |
| 589-34-4 | | VOA | 0.057 |

Notesi

= mg/kg



Sample Type: Soil

CHAS Lab #: 90X08069-141
Date Received: 08/09/96

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 25 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 1.88 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 2.51 | 234 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 31 | 260 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0674 | ИD | 08/14/90 | 08/15/90 | 7470(c) |
| Selenium - Total | 38 | 53 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.5 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

Soil/Solid samples based on sample dry weight.

Sample Type: Soil

CHAS Lab #: 90X08069-14 Date Received: 08/09/9

Internal Code: VS70

Volatile Organics - Systom A by BPA Method 8240 (ref. c)

Analysis Date: 08/11/90

| Parameter | MDL* | Conc.* | Parameter | HDL* | Conc. |
|----------------------------|-------|--------|---------------------------|----------|-------|
| Priority Pollutant Compour | nds: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroethone | 0.005 | ИD |
| Bromomethane | 0.010 | ND | Toluene | 0.005 | 0.085 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chlorosthans | 0.010 | ND | Ethylbenzene | 0.005 | 8 |
| Methylene Chloride | 0.005 | TR . | • | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | s: |
| 1,1-Dichloroethene | 0.005 | ND | Acetone | 0.020 | 0.094 |
| 1,1-Dichloroethane | 0.005 | מא | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | ND |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | ND | 4-Methy1-2-Pentanone | 0.005 | TR |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | 0.042 |
| 1,2-Dichloropropane | 0.005 | ND | , | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | ND | Dibromoethane (EDB) | 0.005 | N |
| Benzene | 0.005 | 0.29 | Methyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | ND | 1,2-Dichlorobenzene | 0.005 | ND |
| 1,1,2-Trichloroethane | 0.005 | מא | 1,3-Dichlorobenzene | 0.005 | . ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | ND |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | מא |

Notes ND = Below minimum detectable level (MDL)

TR = Trace amount present but below MDL

= mg/kg

Based on sample weight as received.

Additional compounds observed in sample

| QA/QC Surrogate Recoveries: | | | | Surrogate Acceptance Criteria | |
|-----------------------------|------------------------|----|---|-------------------------------|---------|
| | | | | Water | Soil |
| | d4-1,2-Dichloroethane: | 83 | • | 76-1144 | 70-121 |
| | d8-Toluene: 87 % | | | 88-110% | 84-138 |
| | _ EDR. 02 a | | | 06 11ĒA | 50-1124 |



Client: Clean Harbors of Chicago Sample ID: BORING #4 SAMPLE #2

CHAS Lab #: 90X08069-14A

Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | <u>Fraction</u> | Estimated Concentration* |
|------------|---------------------|-----------------|-----------------------------|
| 96-37-7 | Hethyl-Cyclopentane | VOA | 0.005 |
| 75-55-8 | 2-methyl-Aziridine | VOA | 0.005 |
| 589-34-4 | 3-methyl-Hexane | VOA | 0.012 |
| | unknown compound | AOV | 0.013 |
| | unknown compound | VOA | 0.011 |
| | chloro-Nitrobenzene | | |
| | isomer | VOV | 3.1 |

Notes:

 $\star = ma/ka$



Sample Type: Soil

CHAS Lab #: 90X08069-15M

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 35 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.63 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.51 | 306 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 44 | 190 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0721 | 0.0721 | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 53 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.6 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

ND - Below minimum detyectable level (MDL) Notes:

* = mg/kg

Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago Sample ID: BORING #4 SAMPLE #3 CHAS Lab #: 90X08069-15A Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

--- None Found VOA ---

Notes:

h = mg/kg



Client: Clean Harbors of Chicago

CHAS Lab #: 90X08069-16M

Sample I.D.: Boring 4 Sample 4

Date Received: 08/09/90

Sample Type: Soil

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|------------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - Total | 33 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Cadmium - Total | 2.47 | 6.49 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Chromium - Total | 3.29 | 764 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Lead - Total | 41 | 640 | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Mercury- Total | 0.0661 | 0.2915 | 08/14/90 | 08/15/90 | 7470 (c) |
| Selenium - Total | 49 | ND | 08/13/90 | 08/14/90 | 3050/6010(c) |
| Silver- Total | 1.8 | ND | 08/13/90 | 08/14/90 | 3005/6010(c) |

Notes: ND - Below minimum detyectable level (MDL)

* = mg/kg

Soil/Solid samples based on sample dry weight.



Sample Type: Soil

CHAS Lab #: 90X08069-16.
Date Received: 08/09/9-

Internal Code: VS70

Volatile Organics - System A by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

| Parameter | MDL* | Conc.* | Parameter | MDL* | Cone. |
|----------------------------|-------|--------|---------------------------|----------|-------|
| Priority Pollutant Compoun | ids: | | 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| Chloromethane | 0.010 | ND | Tetrachloroothene | 0.005 | 0.009 |
| Bromomethans | 0.010 | ND | Toluene | 0.005 | 0.009 |
| Vinyl Chloride | 0.010 | ND | Chlorobenzene | 0.005 | ND |
| Chloroethane | 0.010 | ND | Ethylbenzono | 0.005 | ND |
| Methylene Chloride | 0.005 | ND. | • | | |
| Trichlorofluoromethane | 0.005 | ND | Hazardous Substance List | Compound | 8: |
| 1,1-Dichlorosthene | 0.005 | ND | Acetone | 0.020 | 0.066 |
| 1,1-Dichloroethane | 0.005 | ИD | Carbon Disulfide | 0.010 | ND |
| trans-1,2-Dichloroethene | 0.005 | ND | 2-Butanone | 0.020 | ND |
| Chloroform | 0.005 | ND | Vinyl Acetate | 0.005 | ND |
| 1,2-Dichloroethane | 0.005 | 0.005 | 4-Methyl-2-Pentanone | 0.005 | ND |
| 1,1,1-Trichloroethane | 0.005 | ND | 2-Hexanone | 0.005 | ND |
| Carbon Tetrachloride | 0.005 | ND | Styrene | 0.005 | ND |
| Bromodichloromethane | 0.005 | ND | Total Xylenes | 0.005 | 0.032 |
| 1,2-Dichloropropana | 0.005 | ND | 4 - · · | | |
| cis-1,3-Dichloropropene | 0.005 | ND | Additional Compounds: | | |
| Trichloroethene | 0.005 | 0.046 | Dibromoethane (EDB) | 0.005 | ИД |
| Benzene | 0.005 | TR | Methyl-t-Butylether | 0.010 | ND |
| Dibromochloromethane | 0.005 | מא | 1,2-Dichlorobenzeno | 0.005 | 0.039 |
| 1,1,2-Trichloroethane | 0.005 | ND | 1,3-Dichlorobenzene | 0.005 | ND |
| trans-1,3-Dichloropropene | 0.005 | ND | 1,4-Dichlorobenzene | 0.005 | ND |
| 2-Chloroethylvinylether | 0.010 | ND | Acrolein | 0.010 | ND |
| Bromoform | 0.005 | ND | Acrylonitrile | 0.010 | ND |

Notes ND - Below minimum detectable level (MDL)

TR - Trace amount present but below MDL

* - mg/kg

Based on sample weight as received.
No additional peaks observed in sample

| QA/QC Surrogate Recoveries: | | | Surrogate Acceptance Criteria: | | |
|-----------------------------|------------------------|-----|--------------------------------|---------|--|
| | _ | | Water | Soil | |
| | d4-1,2-Dichloroethane: | 102 | 76-1148 | 70-1214 | |
| | d8-Toluene: 98 % | | 88-1104 | 84-138 | |
| | D-BFB: 99 & | | 86-115% | 59-1134 | |



Client: Clean Harbors of Chicago Sample ID: BORING #4 SAMPLE #4 CHAS Lab #: 90X08069-16A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

None Found VOA ---

Notes:

 $\star = mg/kg$



(312) 646-6202

September 9, 1990

Mr. Mark Schollenberger
Permit Section
Illinios Environmetal Protection Agency
Division of Land Pollution Control
P.O. Box 19276
2200 Churchhill Road
Springfield, IL 62794-9276

Dear Mark:

Enclosed please find the TCLP analysis and remaining semi-volitale analysis for the soil borings associate with the outside drum storage building.

If you have any questions please call me at 312 646-6202.

Sincerely,

Anthony R. Pongonis

Vice President

Enclosure

APR:1h

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ANALYTICAL SERVICES, INC. BEDFORD DIVISION

213 BURLINGTON ROAD, BEDFORD, MA 01730 (617) 275-8111 FAX # 312-6.56

To: Jim Laubsted, Tony Pongonis

From: Rick Ravenelle

Date: 9/5/90

Twenty-three pages to follow.

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MARSACHUSETTS RHODEISLAND CONNECTICUT NEW YORK NEW JERSTY MAINE NEW HAMPSHIRE MARYLAND ILLINOIS OHIO



Sample Type: Soil

CHAS Lab #: 90X08069-10U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.390 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ИD | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable lavel (MDL)

 $\star - mg/1$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

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Sample Type: Soil

CHAS Lab #: 90X08069-12U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 00.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.618 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | 0.009 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0, 004 | 0.015 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | 0.08 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP . | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)

* = mg/l

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-11U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.414 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | 0.003 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0,004 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Sclenium - TCLP | 0.06 | 0.07 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)

 $\star - mg/1$

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-05
Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.492 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.011 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0,0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/27/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/l$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

TeanHarbors

Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 2

Sample Type: Soil

CHAS Lab #: 90X08069-06U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.396 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.007 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

CleanHarbors

Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 4

Sample Type: Soil

CHAS Lab #: 90X08069-08U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|----------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.432 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | מא | 08/30/90 | 08/31/90 | 7470(c) |
| Sélenium - TCLP | 0.06 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010 |

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

CleanHarbors

Client: Clean Harbors of Chicago Sample I.D.: Boring 2 Sample 3

Sample Type: Soil

CHAS Lab #: 90X08069-07U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.466 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.007 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0,0003 | ND | 08/30/90 | 08/31/90 | 74 7 0(c) |
| Selenium - TCLP | 0.06 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)

* = mg/1

Soil/solid samples based on sample dry weight.

TGLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-04U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.467- | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | 0.07 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-02U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.484 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.005 | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ИD | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/29/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/29/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

'LP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

CleanHarbors

Client: Clean Harbors of Chicago Sample ID: BORING #4, SAMPLE #4

Sample Type: Soil

CHAS Lab #: 90X08069-16M Date Received: 08/09/90 Internal Code: \$590

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/16/90 Analysis Date: 08/24/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | | | Conc.* |
|-----------------------------|-------------|--------|---------------------------------------|-------------|------------|---------------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 | | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3.3 | | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | 3.3 | | ND |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3.3 | | ND . |
| bis(2-Chloroisopropyl)Ether | 3.3 | ND | 3,3'-Dichlorobenzidine | | | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | | ND |
| llexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phtha | | | |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | | ND |
| bis(2-Chloroethoxy)Methane | 3 .3 | ND | Benzo(b)Fluoranthene | 3.3 | | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | 3.3 | } | TR |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | | ND |
| 4-Chloroaniline | -3.3 | 11 | <pre>Indeno(1,2,3 cd)Pyrene</pre> | | | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylone | 3.3 | } . | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | · · · · · · · · · · · · · · · · · · · | | | |
| 2-Chloronaphthalene | 3.3 | ND | | | , | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | KDI | . * | Cor. |
| Dimethyl Phthalate | 3.3 | ND | · | k | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3 | | ND |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | 3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | | ND |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3.3 | | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | 3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | | ND |
| 4-Chlorophenyl-phenylather | 3. 3 | ND | 4-Chloro-3-methylpheno | | | ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 1 | | ND |
| 4-Nitroaniline | 17 | ND | 2,4,5-Trichlorophenol | 1 | | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 1. | | ND |
| 4-Bromophenyl-phenylether | 3.3 | טא | 4-Nitrophenol | 1 | | ND |
| Hexachlorobenzene | -3.3 | 25 | 4,6-Dinitro-2-methylph | nenol l' | | מא |
| Phenanthrene | 3.3 | ND | Pentachlorophenol | . 1 | 7 | ND |
| Anthracene | 3.3 | ND | | | | |
| | | | QA/QC Surrogate | Rec. | Ran | ge CL.P |
| | | | 2-Fluorophenol | NAX | - | - 121% |
| | | | Phenol-D5 | NAX | | - 113X |
| | | ٠ | Nitrobenzenc-D5 | naz | | - 120% |
| | | | 2-Fluorobiphenyl | NA X | | - 121% |
| | | | 2,4,6 Trib comophenol | NAZ | 19 | - 122% |
| | | | Terphonyl D14 | NAX | 18 | - 137% |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

NA = Not applicable

Client: Clean Harbors of Chicago Sample ID: BORING #4, SAMPLE #3 Sample Type: Soil

CHAS Lab #: 90X08069-15M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C Extraction Date: 08/16/90 Analysis Date: 08/24/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | HDL* | |
|-----------------------------|------|--------|-----------------------------------|------------|-------------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 3.3 | ND . |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | | ND |
| 1,4-Dichlorobenzen@ | 3.3 | ND | Pyrene | 3.3 | |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | 3.3 | ND | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthalat | e 6.7 | ND |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | ND. |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3.3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Pluoranthene | 3.3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND. |
| 4-Chloroaniline | 3.3 | ND | <pre>Indeno(1,2,3-cd)Pyrene</pre> | 3.3 | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | | | |
| 2-Chloronaphthalene | 3.3 | ND | • | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | HDL | k Conc.* |
| | 3.3 | ND | | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3.3- | TR |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3.3 | ND |
| Dibenzofur a n | 3.3 | ND . | 4-Methylphenol | 3.3 | CIN |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphenol | 3.3 | ND |
| Fluorene | 3.3 | ND | 2,4,6 Trichlorophenol | 17 | ND |
| 4-Nitroaniline | 17 | טא | 2,4,5-Trichlorophenol | 17 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 17 | ND |
| 4-Bromophenyl-phenylether | 3.3 | ND | 4-Nitrophenol | 17 | ND |
| llexachlorobenzene | 3.3 | ND | 4,6-Dinitro-2-methylpheno | | ND |
| Phenanthrene | 3.3 | ND | Pentachlorophenol | 17 | ND |
| Anthracene | 3.3 | TR | | | |
| | | • • • | QA/QC Surrogate Re | ec. | Range CLP ' |
| | | | 2-Fluorophenol M | | 25 - 121% |
| | | | | IAX | 24 - 113% |
| | | | | 14.7 | 23 - 1209 |

| QA/QC Surrogate | кес. | Range CLP |
|----------------------|------|-----------|
| 2-Fluorophenol | NAZ | 25 - 121% |
| Phenol-05 | NAX | 24 - 113% |
| Nitrobenzene D5 | NAX | 23 - 120% |
| 2-Fluorobiphenyl | NAX | 25 - 121% |
| 2,4,6-Tribromophenol | NAX | 19 - 122% |
| Terphenyl-D14 | NAX | 18 - 137% |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

Mat anniinship



Client: Clean Harbors of Chicago Sample ID: BORING #4, SAMPLE #2

Sample Type: Soil

CHAS Lab #: 90X08069-14M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/16/90 Analysis Date: 08/23/90

| Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | HDL* | Conc.* |
|--|-----------------------------|-------------|--------|---------------------------------------|-------|------------------|
| 1,4-Dichlorobenzene 3.3 ND Pyrene 3.3 ND 1,2-Dichlorobenzene 3.3 ND Butylbenzylphthalate 3.3 ND bis(2-Chloroisopropyl)Ether 3.3 ND 3,3'-Dichlorobenzidine 6.7 ND N-Nitroso-Di-n-Propylamine 3.3 ND Benzo(a)Anthracene 3.3 ND Hexachloroethane 3.3 ND bis(2-Ethylhexyl)Phthalate 6.7 ND Nitrobenzene 3.3 ND Chrysene 3.3 ND Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND Isophorone 3.3 ND Benzo(b)Fluoranthene 3.3 ND Isophorone 3.3 ND Benzo(k)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(a)Pyrene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(a)Pyrene 3.3 ND 4-Chloroaniline 3.3 ND Jindeno(1,2,3-cd)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Benzo(g,h,i)Anthracene <td>bis(2-Chloroethyl)Ether</td> <td>3.3</td> <td>ИD</td> <td></td> <td>-</td> <td></td> | bis(2-Chloroethyl)Ether | 3.3 | ИD | | - | |
| 1,2-Dichlorobenzene 3.3 ND Butylbenzylphthalate 3.3 ND bis(2-Chloroisopropyl)Ether 3.3 ND 3,3'-Dichlorobenzidine 6.7 ND N-Nitroso-Di-n-Propylamine 3.3 ND Benzo(a)Anthracene 3.3 ND Hexachloroethane 3.3 ND bis(2-Ethylhexyl)Phthalate 6.7 ND Nitrobenzene 3.3 ND Chrysene 3.3 ND Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND bis(2-Chloroethoxy)Methane 3.3 ND Benzo(b)Pluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(a)Pyrene 3.3 ND 4-Chloroaniline 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND 4-Chloroaniline 3.3 ND Dibenz(a,h)Anthracene 3.3 ND 2-Mitroaniline 3.3 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND | 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | | - |
| bis(2-Chloroisopropyl)Ether 3.3 ND 3,3'-Dichlorobenzidine 6.7 ND N-Nitroso-Di-n-Propylamine 3.3 ND Benzo(a)Anthracene 3.3 ND Nitrobenzene 3.3 ND Chrysene 3.3 ND Niscophorone 3.3 ND Di-n-Octylphthalate 3.3 ND Isophorone 3.3 ND Benzo(b)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND 4-Chloroaniline 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND 2-Hethylnaphthalene 3.3 ND Benzo(g,h)Anthracene 3.3 < | 1,4-Dichlorobenzene | 3.3 | ND | | | |
| N-Nitroso-Di-n-Propylamine 3.3 | | | ND | | | |
| Hexachloroethane Nitrobenzene 3.3 ND Chrysene 3.3 ND Chrysene 3.3 ND Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Naphthalene 3.3 ND Naphthalene 3.3 ND Hexachlorobutadiene 3.3 ND Chrysene 3.3 ND Benzo(b)Fluoranthene 3.3 ND Naphthalene 3.3 ND Benzo(a)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND 2-Methylnaphthalene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Acenaphthylene 3.3 ND Acenaphthene 3.3 ND Acen | bis(2-Chloroisopropyl)Ether | 3.3 | ND | · · · · · · · · · · · · · · · · · · · | | |
| Nitrobenzene 3.3 ND Chrysene 3.3 ND Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND bis(2-Chloroethoxy)Methane 3.3 ND Benzo(b)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND Naphthalene 3.3 ND Benzo(a)Pyrene 3.3 ND 4-Chloroaniline 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND 2-Methylnaphthalene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND 2-Methylnaphthalene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND 2-Methylnaphthalene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND | | | | | | - |
| Isophorone 3.3 ND Di-n-Octylphthalate 3.3 ND bis(2-Chloroethoxy)Methane 3.3 ND Benzo(b)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND Naphthalene 3.3 ND Benzo(a)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Phenzochlorocyclopentadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Phenzochlorocyclopentadiene 3.3 ND Phenzochlorochl | Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthalate | | |
| bis(2-Chloroethoxy)Methane 3.3 ND Benzo(b)Fluoranthene 3.3 ND 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND Naphthalene 3.3 ND Benzo(a)Fyrene 3.3 ND Hexachlorobutadiene 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Hexachlorocyclopentadiene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Hexachlorocyclopentadiene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND Acenaphthene 3.3 ND Phenol 3.3 ND Acenaphthene 3.3 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND 2-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND 2,4-Dichlorophenol 3.3 ND 3.3 ND 3.3 ND 3.3 ND 3.4-Chlorophenyl-phenylether 3.3 ND 3.3 | Nitrobenzene | 3.3 | ND | Chrysen e | | |
| 1,2,4-Trichlorobenzene 3.3 ND Benzo(k)Fluoranthene 3.3 ND Naphthalene 3.3 ND Benzo(a)Fyrene 3.3 ND Hexachlorobutadiene 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Hexachlorocyclopentadiene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Hexachlorocyclopentadiene 3.3 ND Z-Nitroaniline 17 ND Acid Compounds HDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND Acenaphthene 3.3 ND Z-Methylphenol 3.3 ND Acenaphthene 3.3 ND Z-Methylphenol 3.3 ND Acenaphthene 3.3 ND Z-Methylphenol 3.3 ND Z-Methylphenol 3.3 ND Z-Methylphenol 3.3 ND Z-Methylphenol 3.3 ND Z-Mitrophenol 3.3 ND Z-Mitrophenol 3.3 ND Z-Mitrophenol 3.3 ND Z-Mitrophenol 3.3 ND Z-Methylphenol 3.3 ND | Isophorone | 3.3 | ND | Di-n-Octylphthalate | | |
| Naphthalene 3.3 ND Benzo(a)Pyrene 3.3 ND 4-Chloroaniline 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND 2-Methylnaphthalene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND 2-Chloronaphthalene 3.3 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND 4-C | bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | | |
| 4-Chloroaniline 3.3 ND Indeno(1,2,3-cd)Pyrene 3.3 ND Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND Acenaphthene 3.3 ND Phenol 3.3 ND Acenaphthene 3.3 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND A-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND 4-Chloro-3-methylphenol 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | - | |
| Hexachlorobutadiene 3.3 ND Dibenz(a,h)Anthracene 3.3 ND Benzo(g,h,i)Perylene 3.3 ND Benzo(g,h)Anthracene 3.3 ND Be | Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | |
| 2-Methylnaphthalene 3.3 ND Hexachlorocyclopentadiene 3.3 ND 2-Chloronaphthalene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 2-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 4-Chloroaniline | 3.3 | ND | Indeno(1,2,3-cd)Pyrene | | |
| Hexachlorocyclopentadiene 3.3 ND 2-Chloronaphthalene 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | | |
| 2-Chloronaphthalene 3.3 ND 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dimethylphenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ИD |
| 2-Nitroaniline 17 ND Acid Compounds MDL* Conc. Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dimethylphenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Hexachlorocyclopentadiene | 3.3 | ND | | | |
| Dimethyl Phthalate 3.3 ND Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 2-Chloronaphthalene | 3.3 | ND | | | |
| Acenaphthylene 3.3 ND Phenol 3.3 ND 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 2-Nitroaniline | 17 | ND | Acid Compounds | HDL* | Conc.* |
| 3-Nitroaniline 17 ND 2-Chlorophenol 3.3 ND Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Dimethyl Phthalate | 3.3 | ND | | | |
| Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Acenaphthylene | 3.3 | ND | Phenol | | ND |
| Acenaphthene 3.3 ND 2-Methylphenol 3.3 ND Dibenzofuran 3.3 ND 4-Methylphenol 3.3 ND 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| 2,4-Dinitrotoluene 3.3 ND 2-Nitrophenol 3.3 ND 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Acenaphthene | 3.3 | ND | | 3.3 | ND |
| 2,6-Dinitrotoluene 3.3 ND 2,4-Dimethylphenol 3.3 ND Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | Dibenzofuran | 3.3 | ND | 4-Methylphenol | | ND |
| Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 2,4-Dinitrotoluene | 3.3 | ND | | 3.3 | ND |
| Diethylphthalate 3.3 ND 2,4-Dichlorophenol 3.3 ND 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether 3.3 ND 4-Chloro-3-methylphenol 3.3 ND | | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| | | 3 .3 | ND | | 3.3 | CIN |
| Pigorene 3.3 ND 2.4.6-Trichloropheno. 17 Ph | Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 17 | MD |
| 4 Nitroaniline 17 ND 2,4,5-Trichlorophenol 17 ND | 4 Nitroaniline | 17 | ND | | 17 | ND |
| N-Nitrosodiphenylamine 3.3 ND 2,4-Dinitrophenol 17 ND | N-Nitrosodiphenylamine | 3.3 | ND | • | 17 | , ND |
| 4-Bromophenyl-phenylether 3.3 ND 4-Nitrophenol 17 ND | | | ND | | 17 | ND |
| Hexachlorobenzene 3.3 ND 4,6-Dinitro-2-methylphenol 17 ND | | | | | 1 17 | ND |
| Phenanthrene 3.3 ND Pentachlorophenol 17 ND | Phenanthrene | | ND | | 17 | מא |
| Anthracene3.3TR | Anthracene | | TR | • | | |
| QA/QC Surrogate Rec. Range CLI | | | | QA/QC Surrogate Re | c. Ra | inge CLP |
| 2-Fluorophenol NAX 25 - 1213 | | | | 2-Fluorophenol N | AX 25 | 5 - 121% |
| Phenol-D5 NAX 24 - 1139 | | | | | | - 113% |
| Nitrobenzene-D5 NA% 23 - 120% | • | | | | | 3 - 12 0% |
| 2-Fluorobiphenyl NAZ 25 - 1212 | | | | | | |
| 2,4,6-Tribromophenol NAX 19 - 1223 | | | | | |) = 122X · |
| | | | | . , . , | | |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

NA = Not applicable



Client: Clean Harbors of Chicago Sample ID: BORING #3, SAMPLE #4

Sample Type: Soil

CHAS Lab #: 90X08069-12M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Hethod 8270 (ref. c) - System C

Extraction Date: 08/15/90 Analysis Date: 08/23/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|-----------------------------|----------|-------------|----------------------------|---------------|-----------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3.3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3.3 | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyrene | 3.3 | ND |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3.3 | ND |
| bis(2-Chloroisopropyl)Ether | | ND | 3,3'-Dichlorobenzidine | 6.7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | 3.3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phthalate | | ND |
| Nitrobenzene | 3.3 | ND | Chrysene | 3.3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3.3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3.3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | ND | Benzo(k)Fluoranthene | 3.3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3.3 | ND |
| 4-Chloroaniline | | 5.8 | Indeno(1,2,3-cd)Pyrene | 3.3 | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | 3.3 | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | 3.3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | | | |
| 2-Chloronaphthalene | 3.3 | ND | 4 | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | HDL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | | | |
| Acenaphthylene | 3.3 | ND | Phenol | -3.3 | 8.2 |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | 3.3 | ND |
| Acenaphthene | 3.3 | ND | 2 Methylphenol | 3.3 | ND |
| Dibenzofuran | 3.3 | ND | 4-Methylphenol | 3.3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3.3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | 3.3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3.3 | ND |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphenol | 3.3 | - ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | 17 | ND |
| 4-Nitroaniline | 17 | ND | 2,4,5-Trichlorophenol | 17 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | 17 | ND |
| 4-Bromophenyl-phenylether | 3.3 | ND | 4-Nitrophenol | 17 | ND |
| Hexachlorobenzene | | | 4,6-Dinitro-2-methylphenol | 17 | ND |
| Phenanthrene | 3.3 | ND | Pentachlorophenol | 17 | ND |
| Anthracene | 3.3 | ND | | | |
| | . | | QA/QC Surrogate Rec | . R | ange CLP |
| • | | | | | |
| | | | 2-Fluorophenol NA | X 2 | 5 - 121% |
| | | | | X 24 | 4 - 113% |
| | | | | 1 % 2: | 3 - 16.7% |
| | | | | 2. | 5 - 121% |
| | | | | AX 1 | 9 - 122% |
| | | | | AZ 1 | 8 - 137% |
| Motes: ND = Relow minimum | detect | faval alder | | | |

Notes: ND = Below minimum detectable level (MDL)

NA = Not applicable

^{* -} mg/kg based on sample weight as received

18 - 137%



Client: Clean Harbors of Chicago Sample ID: BORING #4, SAMPLE #1

Sample Type: Soil

CHAS Lab #: 90X08069-13M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/15/90 Analysis Date: 08/23/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compound | s M | DL* | Conc.* |
|-----------------------------|------|--------|------------------------|---------|-----|---------|
| bis(2-Chloroethyl)Ether | 3.3 | ND | Di-n-Butylphthalate | 3. | .3 | ND |
| 1,3-Dichlorobenzene | 3.3 | ND | Fluoranthene | 3. | . 3 | ND |
| 1,4-Dichlorobenzene | 3.3 | ND | Pyren e | 3. | . 3 | ND |
| 1,2-Dichlorobenzene | 3.3 | ND | Butylbenzylphthalate | 3 | . 3 | ND |
| bis(2-Chloroisopropyl)Ether | 3.3 | ND | 3,3'-Dichlorobenzidine | e 6. | . 7 | ND |
| N-Nitroso-Di-n-Propylamine | 3.3 | ND | Benzo(a)Anthracene | | . 3 | ND |
| Hexachloroethane | 3.3 | ND | bis(2-Ethylhexyl)Phtha | alate-6 | , 7 | 6.7 · |
| Nitrobenzene | 3.3 | ND | Chrysene | 3. | . 3 | ND |
| Isophorone | 3.3 | ND | Di-n-Octylphthalate | 3. | . 3 | ND |
| bis(2-Chloroethoxy)Methane | 3.3 | ND | Benzo(b)Fluoranthene | 3 | . 3 | ND |
| 1,2,4-Trichlorobenzene | 3.3 | מא | Benzo(k)Fluoranthene | 3 | .3 | ND |
| Naphthalene | 3.3 | ND | Benzo(a)Pyrene | 3 | . 3 | ND |
| 4-Chloroaniline | -3.3 | 18 | Indeno(1,2,3-cd)Pyrene | e 3 | . 3 | ND |
| Hexachlorobutadiene | 3.3 | ND | Dibenz(a,h)Anthracene | | . 3 | ND |
| 2-Methylnaphthalene | 3.3 | ND | Benzo(g,h,i)Perylene | | . 3 | ND |
| Hexachlorocyclopentadiene | 3.3 | ND | | | | |
| 2-Chloronaphthalene | 3.3 | מא | | | | |
| 2-Nitroaniline | 17 | ND | Acid Compounds | M | DL* | Conc.* |
| Dimethyl Phthalate | 3.3 | ND | - : | | | |
| Acenaphthylene | 3.3 | ND | Phenol | 3 | . 3 | TR |
| 3-Nitroaniline | 17 | ND | 2-Chlorophenol | . 3 | .3 | ND |
| Acenaphthene | 3.3 | ND | 2-Methylphenol | 3 | . 3 | ND |
| Dihenzofuran | 3.3 | ND | 4-Methylphenol | 3 | . 3 | ND |
| 2,4-Dinitrotoluene | 3.3 | ND | 2-Nitrophenol | 3 | . 3 | ND |
| 2,6-Dinitrotoluene | 3.3 | ND | 2,4-Dimethylphenol | . 3 | .3 | ND |
| Diethylphthalate | 3.3 | ND | 2,4-Dichlorophenol | 3 | . 3 | 4.1 |
| 4-Chlorophenyl-phenylether | 3.3 | ND | 4-Chloro-3-methylphene | ol 3 | .3 | ND |
| Fluorene | 3.3 | ND | 2,4,6-Trichlorophenol | , | 17 | ND |
| 4-Nitroaniline | 17 | ND | 2,4,5.Trichlorophenol | | 17 | ND |
| N-Nitrosodiphenylamine | 3.3 | ND | 2,4-Dinitrophenol | | 17 | ND |
| 4-Bromophenyl-phenylether | 3.3 | ND | 4-Nitrophenol | | 17 | ND |
| Hexachlorobenzene | | | 4,6-Dinitro-2-methylpl | | 17 | ND |
| Phenanthrene | -3.3 | TR | Pentachlorophenol | • | 17 | ND |
| Anthracene | 3.3 | ND | | | | |
| | | | QA/QC Surrogate | Rec. | Rai | nge CLP |
| | | | 2 Fluorophenol | NAZ | | - 121X |
| | | - | Phenol- D5 | NAZ | | - 11.3% |
| | | | Nitrobenzene-D5 | NAX | | - 120% |
| | | | 2-Fluorobiphenyl | NA% | - | - 121% |
| | | | 2,4,6-Tribromophenol | NAX | 19 | - 1227 |
| | | | | | | 4 4 7 2 |

Terphenyl-D14

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

TR = Trace amount present but below MDL

NA = Not applicable

CleanHarbors

Client: Clean Harbors of Chicago Sample ID: BORING #1, SAMPLE #4

Sample Type: Soil

CHAS Lab #: 90X08069-04M Date Received: 08/09/90 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) - System C

> Extraction Date: 08/15/90 Analysis Date: 08/23/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|----------------------------------|------|--------|---------------------------|-------|----------|
| bis(2-Chloroethyl)Ether | 6.7 | ND · | Di-n-Butylphthalate | 6.7 | ND |
| 1,3-Dichlorobenzene | 6.7 | ND | Fluoranthene | 6.7 | ND |
| 1,4-Dichlorobenzene | 6.7 | ND | Pyrene | 6.7 | ND |
| 1,2-Dichlorobenzene | 6.7 | ND | Butylbenzylphthalate | 6.7 | ND |
| bis(2-Chloroisopropyl)Ether | | ND | 3,3'-Dichlorobenzidine | . 13 | ND |
| N-Nitroso-Di-n-Propylamine | 6.7 | ND | Benzo(a)Anthracene | 6.7 | ND |
| Hexachloroethane | 6.7 | ND | bis(2-Ethylhexyl)Phthalat | e 13 | ND |
| Nitrobenzene | 6.7 | ND | Chrysene | 6.7 | ND |
| Isophorone | 6.7 | ND | Di-n-Octylphthalate | 6.7 | ND |
| bis(2-Chloroethoxy)Methane | 6.7 | ND | Benzo(b)Fluoranthene | 6.7 | ND |
| 1,2,4-Trichlorobenzene | 6.7 | ND | Benzo(k)Fluoranthene | 6.7 | ND |
| Naphthalene | 6.7 | ND | Benzo(a)Pyrene | 6.7 | ND |
| 4-Chloroaniline | 6.7 | ND | Indeno(1,2,3-cd)Pyrene | 6.7 | ND |
| Hexachlorobutadiene | 6.7 | ND | Dibenz(a,h)Anthracene | 6.7 | ND · |
| 2-Nethylnaphthalene | 6.7 | · ND | Benzo(g,h,i)Perylene | 6.7 | ND |
| Hexachlorocyclopentadiene | 6.7 | ND | | · | • |
| 2-Chloronaphthalene | 6.7 | ND | | | |
| 2-Nitroaniline | 33 | ND | Acid Compounds | MDL* | Conc.* |
| Dimethyl Phthalate | 6.7 | ND | · · | | |
| Acenaphthylene | 6.7 | ND | Pheno1 | 6.7 | 22 |
| 3-Nitroaniline | 33 | ND | 2-Chlorophenol | 6.7 | ND |
| Acenaphthene | 6.7 | ND | 2-Methylphenol | 6.7 | ND |
| Dibenzofuran | 6.7 | ND | 4-Methylphenol | 6.7 | ND |
| 2,4-Dinitrotoluene | 6.7 | ND | 2-Nitrophenol | 6.7 | ND |
| 2,6-Dinitrotoluene | 6.7 | ND | 2,4-Dimethylphenol | 6.7 | ND |
| Diethylphthalate | 6.7 | ND | 2,4-Dichlorophenol | 6.7 | ND |
| 4-Chlorophenyl-phenylether | 6.7 | ND | 4-Chloro-3-methylphenol | 6.7 | ND |
| Fluorene | 6.7 | ND | 2,4,6-Trichlorophenol | 33 | ND |
| 4-Nitroaniline | 33 | ND | 2,4,5-Trichlorophenol | 33 | ND |
| N-Nitrosodiphenylamine | 6.7 | ND | 2,4-Dinitrophenol | 33 | ND |
| 4-Bromophenyl-phenylether | 6.7 | NU | 4-Nitrophenol | - 33 | ND |
| Hexachlorobenzene | 6.7 | ND | 4,6-Dinitro-2-methylphen | ol 33 | ND |
| Phenanthrene | 6.7 | ND | Pentachlorophenol | 33 | ND |
| Anthracene | 6.7 | ND | • | | |
| | | | QA/QC Surrogate R | ec. R | ange CLP |
| | | | 2-Fluorophenol | NAX 2 | 5 - 121% |
| · . • | | | | | 4 - 113% |
| | | | | | 3 - 1132 |
| \mathcal{F} | | | | | 5 - 121% |
| | | | | | 9 - 122% |
| | | • | | | 8 - 137% |

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

NA = Not applicable



Client: Clean Harbors of Chicago
Sample ID: BORING #1, SAMPLE #3

Sample Type: Soil

CHAS Lab #: 90X08069-03M Date Received: 08/09/90

Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic by EPA Method 8270 (ref. c) System C Extraction Date: 08/10/90 Analysis Date: 08/23/90

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compounds | MDL* | Conc.* |
|-----------------------------|------|--------|----------------------------|-------|---------|
| bis(2-Chloroethyl)Ether | 6.7 | ND | Di-n-Butylphthalate | 6.7 | ND |
| 1,3-Dichlorobenzene | 6.7 | ND | Fluoranthene | 6.7 | ND |
| 1,4-Dichlorobenzene | 6.7 | ND | Pyrene | 6.7 | ND |
| 1,2-Dichlorobenzene | 6.7 | ND | Butylbenzylphthalate | 6.7 | ND |
| bis(2-Chloroisopropyl)Ether | 6.7 | ND | 3,3'-Dichlorobenzidine | 13 | ND |
| N-Nitroso-Di-n-Propylamine | 6.7 | ND | Benzo(a)Anthracene | 6.7 | ND |
| Hexachloroethane | 6.7 | ND | bis(2-Ethylhexyl)Phthalate | 13 | ND |
| Nitrobenzene | 6.7 | ND | Chrysene | 6.7 | ND |
| Isophorone | 6.7 | ND | Di-n-Octylphthalate | 6.7 | ND |
| bis(2-Chloroethoxy)Methane | 6.7 | ND | Benzo(b)Fluoranthene | 6.7 | ND |
| 1,2,4-Trichlorobenzene | 6.7 | ND | Benzo(k)Fluoranthene | 6.7 | ND |
| Naphthalene | 6.7 | ND | Benzo(a)Pyrene | 6.7 | ND |
| 4-Chloroaniline | 6.7 | ND | Indeno(1,2,3-cd)Pyrene | 6.7 | ND |
| Hexachlorobutadiene | 6.7 | ND | Dibenz(a,h)Anthracene | 6.7 | ND |
| 2-Methylnaphthalene | 6.7 | ND | Benzo(g,h,i)Perylene | 6.7 | ND |
| Hexachlorocyclopentadiene | 6.7 | ND | | | |
| 2-Chloronaphthalene | 6.7 | ND | | | |
| 2-Nitroaniline | 33 | ND | Acid Compounds | KDL* | Conc.* |
| Dimethyl Phthalate | 6.7 | ND | · | • | |
| Acenaphthylene | 6.7 | ND | Phenol | -6.7 | 12 |
| 3-Nitroaniline | 33 | ND | 2-Chlorophenol | 6.7 | ND |
| Acenaphthene | 6.7 | ND | 2-Methylphenol | 6.7 | ND |
| Dibenzofuran | 6.7 | ND | 4-Methylphenol | 6.7 | ND |
| 2,4-Dinitrotoluene | 6.7 | ND | 2-Nitrophenol | 6.7 | ND |
| 2,6-Dinitrotoluene | 6.7 | ND | 2,4-Dimethylphenol | 6.7 | ND |
| Diethylphthalate | 6.7 | ND | 2,4-Dichlorophenol | 6.7 | ND |
| 4-Chlorophenyl-phenylether | 6.7 | ND | 4-Chloro-3-methylphenol | 6.7 | ND |
| Fluorene | 6.7 | מא | 2,4,6-Trichlorophenol | 33 | ND |
| 4-Nitroaniline | 33 | ND | 2,4,5-Trichlorophenol | 33 | ND |
| N-Nitrosodiphenylamine | 6.7 | ND | 2,4-Dinitrophenol | 33 | ND |
| 4-Bromophenyl-phenylether | 6.7 | ND | 4-Nitrophenol | 33 | ND |
| Hexachlorobenzene | 6.7 | ND . | 4,6-Dinitro-2-methylpheno | | ND |
| Phenanthrene | 6.7 | ND | Pentachlorophenol | 33 | ND |
| Anthracene | 6.7 | ND | · | | |
| | | | QA/QC Surrogate Rec | c. Ra | nge CLP |
| | | | 2-Fluorophenol 34 | 4% 25 | - 121% |
| | | | | | - 113% |
| | 1 | | Nitrobenzene-D5 4 | 2% 23 | - 113% |
| | | | 2-Fluorobiphenyl 5 | 4% 25 | - 121X |
| | | | | 7% 19 | - 12 |
| | | | | 1% 18 | - 12 |

Notes: ND = Below minimum detectable level (MDL)

^{* =} mg/kg based on sample weight as received



Sample Type: Soil

CHAS Lab #: 90X08069-15U

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.348 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.024 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND. | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-16U

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0,002 | 0.149 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0,0003 | ND | 08/30/9 0 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/27/90

Notes: ND = Below minimum detectable level (MDL)

 $\star = mg/l$

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-14U

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Mathod Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.463 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0.019 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-13U Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.295 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/27/90

Notes: ND = Below minimum detectable level (MDL)

 $\star - mg/1$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Sample Type: Soil

CHAS Lab #: 90X08069-09U

Date Received: 08/09/90

| Parameter | MDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-----------------|--------|---------|-------------------|------------------|-----------------------------|
| Arsenic - TCLP | 0.04 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Barium - TCLP | 0.002 | 0.338 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Cadmium - TCLP | 0.003 | 0.013 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Chromium - TCLP | 0.004 | 0,015 | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Lead - TCLP | 0.05 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Mercury - TCLP | 0.0003 | ND | 08/30/90 | 08/31/90 | 7470(c) |
| Selenium - TCLP | 0.06 | ND | 08/30/90 | 08/31/90 | 3010/6010(c) |
| Silver - TCLP | 0.02 | ND | 08/30/90 | 08/31/90 | 3005/6010(c) |

Sample extracted on 08/27/90

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



OF CHICAGO, INC. 11800 S. STONY ISLAND AVENUE CHICAGO, IL 60617 (312) 646-6202

February 20, 1991

Mr. Greg Dunn #24
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Dunn:

Per your letter dated January 11, 1991, I have enclosed the groundwater sample data from our on-site monitor well. The soil sample data from the pit just south of our office trailer will be forwarded to you upon corporate approval.

Should you require more information or have any questions, please feel free to contact me at 312/646-6202.

Sincerely,

CLEAN HARBORS OF CHICAGO, INC.

James R. Laubsted General Manager

Enclosure

JRL/mk

RECEIVED

FEB 2.5 1991 IEPA/DLPG



Client: Clean Harbors of Chicago

Sample I.D.: Monitoring Well 4TH Quarter

Sample Type: Water

CHAS Lab #: 90X12144-01F Date Received: 12/21/90

| Parameter | HDL* | Result* | Digestion Date | Analysis Date | Method Number and Reference |
|-------------------|--------|---------|-------------------|------------------|-----------------------------|
| Antimony - Total | 0.06 | ND | 12/26/90 | 12/26/90 | 3005/200.7(a) |
| Arsenic - Total | 0.04 | 0.05 | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Beryllium - Total | 0,002 | 0,008 | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Cadmium - Total | 0,003 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Chromium - Total | 0.004 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Copper - Total | 0.02 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Lead - Total | 0.05 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Mercury - Total | 0.0003 | ND | 12/26/90 | 12/27/90 | 245.1(a) |
| Nickel - Total . | 0.01 | 0.12 | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Selenium - Total | 0.06 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Silver - Total | 0.02 | ND | 12/26/90 | 12/26/90 | 3005/200.7(a) |
| Thallium - Total | 0.07 | ND | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |
| Zinc - Total | 0.002 | 0.080 | 12/26/90 | 12/26/90 | 4.1.3/200.7(a) |

Notes: ND - Below minimum detectable level (MDL)

 $\star = mg/1$

All metal results are blank corrected.

RECEIVED

FEB 2.5 1991

JEPA/DLPC



Client: Clean Harbors of Chicago

Sample I.D.: Monitoring Well 4TH Quarter

Sample Type: Water

CHAS Lab #: 90X12144-01H

Date Received: 12/21/90

| Parameter | MDL | Result | Units | Analysis Date | Method Number and Reference |
|----------------|------|--------|-------|------------------|-----------------------------|
| Cyanide, Total | 0.02 | 0.46 | mg/l | 12/28/90 | 335.2(a) |

Notes: ND = Below minimum detectable level (MDL)

RECEIVED

FEB 2.5 1991

JEPA/DLPC



Client: Clean Harbors of Chicago Sample ID: HONITORING VELL

Sample Type: Vater

CRAS Lab #: 90X12144-01G Date Received: 12/21/90 Internal Code: SW110

Semi-Volatile Base/Neutral and Acid Extractable Organics by EPA Method 625 (ref. f)

Extraction Date: 12/26/90 Analysis Date: 01/04/91

| Base/Neutral Compounds | MDL* | Conc.* | Base/Neutral Compound | s MD | L* Conc.* |
|----------------------------|------------------------------|--------|------------------------|------------|------------|
| bis(2-Chloroethyl)Ether | 50 | ND | Di-n-Butylphthalate | | 50 ND |
| 1,3-Dichlorobenzene | 50 | ND | Pluoranthene | | 50 ND |
| 1,4-Dichlorobenzene | 50 | ND | Pyrene | | 50 ND |
| 1,2-Dichlorobenzene | 50 | ND | Butylbenzylphthalate | | 50 ND |
| bis(2-Chloroisopropyl)Ethe | r 50 | ND | 3,3'-Dichlorobenzidin | e 1 | 00 ND |
| N-Nitroso-Di-n-Propylamine | | ND | Benzo(a)Anthracene | | 50 ND |
| Hexachloroethane | 50 | ND | bis(2-Ethylhexyl)Phtha | | |
| Nitrobenzene | 50 | ND | Chrysene | | 50 ND |
| Isophorone | 50 | ND | Di-n-Octylphthalate | | 50 ND |
| bis(2-Chloroethoxy)Methane | | ND | Benzo(b)Fluoranthene | | 50 ND |
| 1,2,4-Trichlorobenzene | 50 | ND | Benzo(k)Fluoranthene | | 50 ND |
| Naphthalene | 50 | ИD | Benzo(a)Pyrene | | 50 ND |
| Hexachlorobutadiene | 50 | ND | Indeno(1,2,3-cd)Pyrene | è . | 50 ND |
| Hexachlorocyclopentadiene | 50 | ND | Dibenz(a,h)Anthracene | | 50 ND |
| 2-Chloronaphthalene | 50 | ND | Benzo(g,h,i)Perylene | | 50 ND |
| Dimethyl Phthalate | 50 | ND | N-nitrosodimethylamine | | 50 ND |
| Acenaphthylene | 50 | ND | 1,2-diphenylhydrazine | | |
| Acenaphthene | 50 | ND | (as Azobenzene) | | 50 ND |
| 2,4-Dinitrotoluene | 50 | ND | Benzidine | 2. | 50 ND |
| 2,6-Dinitrotoluene | 50 | ND | • | | |
| Diethylphthalate | 50 | ND | Acid Compounds | MD | L* Conc.* |
| 4-Chlorophenyl-phenylether | 50 | ND | • | | |
| Fluorene | 50 | ND | Phenol | | 50 1600 |
| N-Nitrosodiphenylamine | 50 | ND | 2-Chlorophenol | | 50 ND |
| 4-Bromophenyl-phenylether | 50 | ND | 2-Nitrophenol | (| 50 ND |
| Hexachlorobenzene | 50 | ND | 2,4-Dimethylphenol | ! | 50 ND |
| Phenanthrene | 50 | ND | 2,4-Dichlorophenol | | 50 ND |
| Anthracene | 50 | ND | 4-Chloro-3-methylpheno | 1 2 | 50 ND |
| | | | 2,4,6-Trichlorophenol | | 50 ND |
| | | | 2,4-Dinitrophenol | 2 | 50 ND |
| | | | 4-Nitrophenol | 2 | 50 ND |
| | • | | 4,6-Dinitro-2-methylph | nenol 2 | 50 ND 1 |
| • | | | Pentachlorophenol | | 50 ND |
| | | | QA/QC Surrogate | Rec. | Range CLP |
| R | ECEIV | ED. | 2-Fluorophenol | 89% | 21 - 1.00% |
| | | | Phenol-D5 | 35% | 10 110% |
| | | | r neno, -bb | | |
| · FF | B 2 5 % | 991 | Nitrobenzene-D5 | 80% | 35 - 114% |
| FE | B 2 5 % | 991 | Nitrobenzene-D5 | 80% | 35 - 1142 |
| | B 2 5 ⁹ EPA/DL | | | | |

Notes:

ND = Below minimum detectable level (MDL)



Client: Clean Harbors of Chicago Sample ID: MONITORING WELL

CHAS Lab #: 90X12144-01G Date Received: 12/21/90

TENTATIVELY IDENTIFIED COMPOUNDS

| CAS Number | Compound | Fraction | Estimated Concentration* |
|------------|------------------------|----------|--------------------------|
| 60) Au | unknown compound | BNA | 19 |
| 872504 | 1-Methyl-2-pyrrolidino | ne BNA | 36 |
| | unknown compound | BNA | 35 |
| 99945 | 4-Methyl Benzoic Acid | BNA | 800 |
| | unknown compound | BNA | 45 |
| | unknown compound | BNA | 26 |
| | unknown compound | BNA | 5 5 |
| | unknown compound | BNA | . 27 |
| | unknown compound | BNA | 200 |
| | unknovn compound | BNA | 910 |
| | unknown compound | BNA | 130 |

Notes

= ug/l



Client: Clean Harbors of Chicago

Sample ID: MONITORING VELL

Sample Type: Water

CHAS Lab #: 90X12144-01AB
Date Received:12/21/90
Internal Code: VW110

Volatile Organic Analysis by EPA Hethod 624

Analysis Date: 01/02/91

| Parameter | MDL* Conc.* Parameter | | MDL* | Conc.* | |
|----------------------------|-----------------------|------|---------------------------|--------|------|
| Priority Pollutant Compoun | nds: | | 1,1,2-Trichloroethane | 50 | ND |
| Chloromethane | 100 | ND | trans-1,3-Dichloropropene | 50 | ND - |
| Bromomethane | 100 | ND | 2-Chloroethylvinyl Ether | 100 | ND |
| Vinyl Chloride | 100 | ND | Bromoform | 50 | ND |
| Chloroethane | 100 | ND | 1,1,2,2-Tetrachloroethane | 50 | ND |
| Methylene Chloride | 50 | 1800 | Tetrachloroethene | 50 | ND |
| Trichlorofluoromethane | 50 | ND | Toluene | 50 | ND |
| 1,1-Dichloroethene | 50 | ND | Chlorobenzene | 50 | ND |
| 1,1-Dichloroethane | 50 | ND | Ethylbenzene | 50 | ND |
| trans-1,2-Dichloroethene | 50 | ND | Acrolein | 100 | ND |
| Chloroform | 50 | ND | Acrylonitrile | 100 | ND |
| 1,2-Dichloroethane | 50 | ND | | | |
| 1,1,1-Trichloroethane | 50 | ND | | | |
| Carbon Tetrachloride | 50 | ND | | | |
| Bromodichloromethane | 50 | ND | | | |
| 1,2-Dichloropropane | 50 | ND | | | |
| cis-1,3-Dichloropropene | 50 | ND | | | |
| Trichloroethene | 50 | ND | | | |
| Benzene | 50 | ND | | | |
| Dibromochloromethane | 50 | ND | | | |

Notes:

ND = below minimum detectable level (MDL)

* = ug/1

QA/QC

Surrogate recoveries:

1,2-Dichloroethane-D4: 993

Toluene-D8: 108%

p-BFB: 100%



Client: Clean Harbors of Chicago Sample ID: MONITORING WELL CHAS Lab #: 90X12144-01AB
Date Received: 12/21/90

TENTATIVELY IDENTIFIED COMPOUNDS

CAS Number Compound Fraction Concentration*

Notes:

* = ug/l



Client: Clean Harbors of Chicago

Sample I.D.: Monitoring Well 4TH Quarter

Sample Type: Water

CHAS Lab #: 90X12144-01

Date Received: 12/21/90

Polychlorinated Biphenyls (PCB's) by EPA Method 3510/8080

> Extraction Data: 12/26/90 Analysis Date: 12/28/90

| Parameter | | MDL | Concentration | Units |
|---|----------------------|--------------------------|----------------------|--------------------------------------|
| PCB - Aroclor PCB - Aroclor PCB - Aroclor PCB - Aroclor PCB - Aroclor | 1221 1232 1242 | 0.1 0.1 0.1 0.1 | ND ND ND ND | ug/l ug/l ug/l ug/l ug/l |
| PCB - Aroclor PCB - Aroclor | | 0.2 0.2 | nd Nd | ug/l ug/l |

Notes: ND - Below minimum detectable level (MDL)



Client: Clean Harbors of Chicago

Sample I.D.: Monitoring Well 4TH Quarter

Sample Type: Water

CHAS Lab #: 90X12144-01P Date Received: 12/21/90

Organochlorine Pesticides by EPA Method 3510/8080

Extraction Date: 12/26/90 Analysis Date: 12/30/90

| Parameter | MDL | Concentration | Units |
|---------------------|------|---------------|-------|
| Alpha-BHC | 0.05 | ND · | ug/l |
| Gamma-BHC (Lindane) | 0.05 | ND | ug/l |
| Beta-BHC | 0.05 | ND | ug/1 |
| Heptachlor | 0.05 | ND | ug/1 |
| Delta-BHC | 0.05 | ND | ug/1 |
| Aldrin | 0.05 | ND | ug/1 |
| Heptachlor Epoxide | 0.05 | ND | ug/l |
| Gamma-Chlordane | 0.05 | ND | ug/1 |
| Alpha-Chlordane | 0.05 | nd | ug/l |
| Endosulfan I | 0.05 | , ND | ug/1 |
| 4,4'-DDE | 0.10 | ND | ug/1 |
| Dieldrin | 0.10 | ND ND | ug/1 |
| Endrin | 0.10 | ND ND | ug/1 |
| 4,4'-DDD | 0.10 | ND | ug/l |
| Endosulfan II | 0.10 | ND | ug/l |
| 4,4'-DDT | 0.10 | ND | ug/l |
| Endrin Aldehyde | 0.10 | ND | ug/1 |
| Endosulfan Sulfate | 0.10 | ND | ug/1 |
| Methoxychlor | 0.50 | ND | ug/1 |
| Endrin Ketone | 0.10 | ND | ug/1 |
| Technical Chlordane | 0.50 | ND | ug/1 |
| Toxaphene | 1.0 | ND | ug/1 |

Notes: ND - Below minimum detectable level (MDL)

| SPECIAL ANALY | VSIS FORM CU5425 JAN3174 |
|--|---|
| | Sch-Basia SHIP CANAL |
| 7572 | • |
| Facility Name: Facility Number: | Collector 2.15MPA + 141KOLAITIS File Town |
| itream Name(s) | 1/700 STONT ISLAND - CHICA & O Screen Code: |
| | JELEEU GUJE: |
| Source of Sample: (Exact Location) | |
| TEST WELL #10 | |
| | |
| hysical Observations, Remarks: | |
| | • |
| | |
| | <u> </u> |
| low Field Dissolved Oxygen | Field pH Field Temp. |
| 3:004 (Arseric) Colifo | m/100ml Than 500 (300) |
| i.o (Barium) Fecal | Coliforn 1500 Cop |
| 2 3 | 100 ml |
| recal | 100 -1 |
| 23.0 | (Total) /=1 950 Susp. 501):13 |
| Copper) | yol.Susp.Solids |
| Sufficient (chromium (chr) Organi | c Nimogen (N) 10. 9 64 (units) |
| AMPLE / | |
| 10.0 | |
| Prospn | brus (P) Hardness |
| Iron (Dissolved) Colored chlori | DECEIVE (Ikalinity |
| 2. 45 lead 1.6 Fluors | CHICAGO OFFICE Total Acidity |
| 3.62 Kanganesa - 1200 Sulfat | FEB 19 1974 Free Acidity |
|), 3 Mercury (20b) 6,0 (Cyanid | ACENICY |
| i. /· | SIMIE UP ILLINOIS |
| 1.00 | 553 Other (Specify) 4392 — ROE |
|). 00 Selenium A. 82 D. Phenol | FOR LAB USE CRITY |
| Transported by: | Lab Number 00 05-2005 d by FCA |
| Zine Received by: | Date sample rec'd: 1-31-74 Time: 7 |
| ssults in mg/1 unless | Data analysis completed: 2-14-7 |
| no Total | Total Tests requested: 27Tests run |
| 0.14 Monum Received by: | Lab Section Enter a P. Makarch |
| the control of the co | E to the second of the second |



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY-DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM CU5426 JAN3174

| ri ollected | | Sub-Basia SHIP | CANAL |
|--|------------------------|-------------------------|--|
| Pate Collected 1/2 Facility Name: | Facility Number | er: File Tow | |
| Stron WASTE A | 7 > 1 7 1 . | 11100 STON Scream C | oce: |
| course of Sample: (Ex | ect Location) | | • • • |
| | EST WELL #1: | 3 | |
| | | | RECEIVED CHICAGO OFFICE |
| hysical Observations | . Remarks: | - | FEB 1 5 1974 |
| | • | | STATE OF PLANTS |
| low | Field Dissolved Oxygen | : Field pH | Field Tomp. |
|): 0 PA Arsenie | | _Colifora/100al | 300 |
| O. O Parium | | _Fecal Coliform | 280 00 |
| TO TERENCE SOFOT | | _Fecal Strep | TS/EC |
| 1-4 8 Cadmine | | _Algae (Total) /al | Susp.Solids |
| CALOR Chromium | <u> 48.0</u> | Amonia (N) | Vol.Susp.Solids |
| JTERFER.) | | _Organic Nitrogen (N) _ | 3.8 pg (units) |
| Chronium | | Ritrate + Witrite(N) | Turbidity (JTJ) |
| 16,500 For (To |) | Phosphorus (2) | Fardness |
| Iron (D: | Issolved) | _Chloride | Alkalimity |
| 1.5 (lead) | | _Fluorida | Total Acidity |
| 100. 7 Mangane | 5 – | _Sulfate | Free Acidity |
| 0.3 Mercury | (D)6) | _Cyanide . | 0i1 |
| 45.0 Nickel | • | | Other (Specify) |
| 2.00 Selenium | • | Phenol (ppb) | SAR PLA MET MTV |
| 2. 7.2 511ver | Transported by:_ | | FOR LAB USE ONLY CO 05.12G _{ec'd} by F Cal |
| 2 · · D · Eind | Received by: | Date samp | le rec'd:/-3/-74 Time: 2:2 |
| esults in mg/l unle therwise noted. | Transported by:_ | | ysis completed: $\frac{2-13-79}{2-19-79}$ |
| 420.0 chrome | Received by: | | ts requested: 17 Tests run: |

| | SPECIAL ANALYSIS YCZYDU5427 | JAN3174 |
|--|---|---|
| ac Collected | Sub-Basin SHIA C | |
| lected 1/31/74 | . Collector 2/EMC4 Y | • |
| | cy Number: File Town | ISLAND -CAICAGO |
| ream Name(s) | Stream Code | |
| arce of Sample: (Exact Location) | | , , , |
| TEST WELL #1 | 4 | |
| | RE | CEIVED |
| rsical Observations. Remarks: | Chi | CAGO OFFICE |
| | | 13 15 1971 |
| | | TAL PROTECTION ASSETS) TE OF ILLINOIS |
| Field Dissolved | Oxygen Field pH | Field Temp. |
| Arsenio | Coliform/100ml | 300 |
| Bottlé (Parium) | Fecal Coliforn | |
| eoron) | Fecal Strep | TS/EC |
| | | Sugar 2016 de |
| Cadmium | Algze (Total) /=L | Susp.Solids |
| /3 Copper | Algze (Total) /=L Ammonia (N) | |
| | • | • |
| Copped Copped Continua (tri) | Ammonia (N) | |
| 13 Copped | Armonia (N) Organic Nitrogen (N) | Vol.Susp.Sulilu |
| Copped Copped | Ammonia (N) Organic Sitrogen (N) Nitrate + Sitrite(N) | Vol.Susp.Sulids pH(units) Turbidity (JTU) |
| Correction (Total) | Ammonia (N) Organic Nitrogen (N) Nitrate + Nitrite(N) Phosphorus (P) | Vol.Susp.Sulids |

Cyanide

MEAS

O D Selenium Phenol (ppb)

O Selenium Phenol (ppb)

Transported by:

Sults in mg/l unless

Transported by:

Transported by:

Received by:

Received by:

Received by:

Lab Number 05:127 ac'd by Factor Date sample rec'd: 1-3/-74 Time: 2.76

Date analysis completed: 2./3-74

Date results forwardd: 2-/4-74

Total Tests requested: 15 Tests run 1/2

Lab Section: Church Superins Runch

ATTACHMENT E

SITE 4-MILE RADIUS MAP

ATTACHMENT F

AREA WELL LOGS

White Copy III. Dept ... c Health Yellow Cop, ... i Contractor Blue Copy — Well Owner

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | Type of Well |
|----|---|
| | a. Dug Bored Hole Diamin. Depthft. |
| | Curb material Buried Slab: YesNo |
| | b. Driven K. Drive Pipe Diam. 16 in. Depth 60.25ft. |
| | c. Drilled X. Finished in Drift In Rock X-168 |
| | Tubular Gravel Packed |
| | d. Grout: (KIND) FROM (Ft.) TO (Ft.) |
| | |
| | Frank A 614.0 Surface |
| | |
| | |
| 2. | Distance to Negrest: |
| | Building 200 Ft. Seepage Tile Field |
| | Cess Pool Sewer (non Cast iron) |
| | Privy Sewer (Cast iron) |
| | Septic Tank Barnyard |
| | Leaching Pit Manure Pile |
| 3. | Is water from this well to be used for human consumption? |
| | Vos. No. 3 |
| 4. | Date well completed 1/1968 |
| 5. | Permanent Pump Installed? YesNo |
| - | Manufacturer Type |
| | Capacitygpm. Depth of settingft. |
| 6. | Well Top Sealed? Yes No |
| | Pitless Adaptor Installed? YesNo |
| | Well Disinfected? Yes No |
| | |
| 9. | Water Sample Submitted? YesNo |
| | (to state water survey) |
| RE | MARKS: |
| | |

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

| | | . 29 | (1) v | 1917 |
|-------------|---|---------------------------------------|-----------|--------------------------|
| 10. Dept. I | Mines and Minerals permit I ty owner <u>Metropolitan San</u> | 10 | W-11 M- | ear /// |
| II. Proper | is colonel Trestment | 4 121. 7 | well No. | 7 00 |
| Addres | Scarner Irestment | | no No | 490 |
| Diffier | Layne Western Co. | Prom | nty | |
| | from Thenstone fested | 13 | | |
| at dep | th toft. | | 27,6 | |
| | : Diamin. | Twp | .3 7M | . 0 |
| Length | ı:ft. Slot | | . 14E | |
| | | Ele | v | |
| 15. Casing | g and Liner Pipe | | | |
| Diem. (in.) | Kind and Weight | From (Ft.) | To (Ft.) | SHOW LOCATION IN |
| 16 | Steel - stil | +/ | 60.25 | SECTION PLAT |
| 12 | Skel 49.56# | +1 | | lermit: 2960'N, 20001 |
| | | | - P | |
|) C C: II | 1 : 1 : 17' | · · · · · · · · · · · · · · · · · · · | L | y sw/c |
| | ole below casing: 12 | | _L :_ | / " |
| | levelft. below casi ground level. Pumping lev | | | |
| | ground rever. Pumping lev r hours. | e1 II. | witen pun | iping at |
| gpin 10 | i nours. | | | |
| 18. I | FORMATIONS PASSED THROUG | SH | THICK | NESS DEPTH OF BOTTOM |
| Drift | | | 55 | |
| -Silver | en limestone | | 135 | 190 |
| Muguok | et shale | | | |
| Galeng - | Platterille | | 323 | 11.5 |
| | e sandstone | | 86 | |
| Aume | du Wien | | 196 | 1209 |
| Trumpe | 1/200 | | 165 | 1374 |
| Elsaco | *• | | 129 | 1.,,0 |
| Gless | | | 176 | 168 |
| | E ON SEPARATE SHEET IF | NECESSARY) | | 03410 |
| | -// | · | L | |
| | (/2 /1 no | -1 | | 1 1/2 |
| SIGNED | Deal Dellani | ton DA | PE // | 7/68 |
| | 111 | - | | |
| | <i>"</i> | | | |

INSTRUCTIONS TO DR RS

White Copy —
III, Dept. of Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

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GEOLOGICAL AND WATER SURVEYS WELL RECORD

| ILLINOIS | DEF | ARTMENT | OF | PUBLIC | HEALTH |
|----------|-----|----------|-----|---------------|--------|
| WE | ELL | CONSTRUC | TIO | N REPOR | T |

| V | WELL CONSTRUCTION REPORT | | San w | | -0 |
|----------------------------|--|----------------------------------|----------------------------|-----------|---------------------|
| 1. Type of We | 11 / 21/2 | Address QGE. Cree | Chicago | 2 | a 10 22' |
| a. Dug | Bored Hole Diam. <u>5</u> in. Depth <u>343</u> ft. | Driller Blef Knieum | License I | 10 | 011 |
| Curb ma | rterial Burled Slab: YesNo | 11. Permit No. 113585 | <u>ــــ Date ـــــــ ع</u> | - 43 - | 89 |
| | Drive Pipe Diamin. Depthit. | 12. Water from Formation | _ 13. County | Con. | <u> </u> |
| | Finished in Drift In Rock | at depth toft. | Sec. 4 | 77.62 | |
| Tubular | Gravel Packed | 14. Screen: Diamin. | Twp. <u>3</u> | | |
| d. Grout: | (KIND) FROM (FL) TO (Ft.) | Length:ft. Slot | | 72 - | ╃╼╂╼╂╼╂ |
| | | | Elev | | 1-1-1-1 |
| | Cutting | 15. Casing and Liner Pipe | L164 | | \mathbf{k} |
| | | | | | SHOW |
| | | Diam. (in.) Kind and Weight | From (Ft.) To | | SHOW CATION IN |
| 2 Dist to | N | 5 Jah 40 | 0 | | TION PLAT |
| 2. Distance to | | | · | | 00 5 4 |
| | Ft. Seepage Tile Field Sewer (non Cast iron) | | | | |
| | | 16. Size Hole below casing: 43/4 | , | | |
| | Sewer (Cast iron) Barnyard | 17. Static levelft. below casing | IU. top which i | - | / " |
| | it Barnyard | above ground level. Pumping leve | ig top witch i | en numnin | a of |
| Leaching F | nes water for human consumption? YesNoX | gpm for bours. | :11(. W | en hambin | y ut |
| J. Well lumish | completed _ lug _ 1984 | gpin tot nours. | | | |
| 4. Date well c | ompleted 11 12 1 Day | 18. FORMATIONS PASSED THROUG | н | THICKNESS | DEPTH OF BOTTOM |
| o. Permanent I | Pump Installed? YesDateNo | 7 .0 01 | | | |
| | TypeLocation | 7 gel « Clas | / | | 60 |
| | gpm. Depth of SettingFt. | Park | · · | 60 | 343 |
| | ealed? YesNoType | | | | 1-1- |
| | spler Installed? YesNo | | | | |
| Manufacture | erModel Number | | | | • |
| now attach: | ected? YesNo | | | | |
| | | | | | |
| | Equipment Disinfected? YesNo | | ł | | |
| | ank Sizegal. Type | | | | |
| Location _ | le Submitted? YesNo | | | | |
| 1. water Sampi REMARKS: | le Submitted? TesNO | | | • | |
| IEWWINS: | | | | | 1 |
| 1 | | | [| | <u></u> |
| O trao | rvation Well # 11 | (CONTINUE ON SEPARATE SHEET IF | NECESSARY) | | |
| Grade . | | SIGNED PHILL KNIESIM | | 11.11 | 1 011 |
| fig. | | GICNED MIN MUDSIM | DATE | . //-/6 | コーグブ |

White Copy
III, Dept. 'Ic Health
Yellow Com Contractor
Blue Copy — wner

PILL IN ALL PERTINENT INFORMATION RECUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 61 STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | Type of Well | • | | _ | | | |
|-----|--|-------------------|--------------|-------------|---------------|----------|--|
| | | Bored | | | | | |
| | Curb mate | rial | Buried | Slab: Y | es | No | |
| | b. Driven | Drive I | Pipe Dic | m | _in. D | epth | _ft. |
| | c. Drilled | <u>X</u> . Finish | ed in Dr | ift | In | Rock | <u>. </u> |
| | | Gravel | Packed | | • | | |
| | d. Grout: | (KIND) | P | ROM (Ft.) | | TO (Ft.) | \neg |
| | consequence of the second seco | , | | | | | |
| | | | | | | | |
| | a control of the cont | <u> </u> | | | | | |
| | | | | | | | |
| 2. | Distance to N | earest: | | | | | |
| | Building | Ft | . Seep | age Tile | Field. | | |
| | Cess Pool | | Sewe | er (non C | ast iro | n) | |
| | | | | | | | |
| | Septic Tank _ | · | Barn | yard | | | |
| | Leaching Pit | | Manı | ıre Pile_ | | | |
| 3. | Is water from | this well to be | used fo | r human | consun | ption? | |
| | Yes | NoX | | | | • | |
| 4. | Date well con | pleted <u>Har</u> | ch 23, | 1967 | | | |
| | Permanent Pu | mp Installed? | Yes | X | No | | <u>.</u> |
| | Manufacturer | Red Jacke | <u>t</u> | _Туре_ | Xubme | ersible | |
| | Capacity 75 | gpm. D | epth of | setting_ | 690 | | ft. |
| 6. | Well Top Seal | led? Yes X | | _No | | | |
| | | tor Installed? | | | | | |
| 8. | Well Disinfec | ted? Yes | | No . | | X | |
| | | | | | | | |
| 9. | water Sample | Submitted? | 1 es | | NO_ | | |
| יזס | MARKS: | | , | - | | ÷ | |
| UCI | WYLV9: | | | | | | |
| | | | | | | | |

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

| | 10 | | | 2011 |
|--|-------------------|------------------|-------------|--|
| 10. Dept. Mines and Minerals permit | No. 1948 | ' | Year . | 1966 |
| 11. Property owner Bonell Mfg. C Address 13521 S. Halsted | 0. | Well No. | | |
| | | | | |
| Driller Wehling Well Works, | <u>In</u> CLicens | se No. 9 | <u>2-56</u> | |
| 12. Water from | 13. Cou | nty 00 | OK | |
| at depthtoft. | Sac | 32 | | |
| 14. Screen: Diamin. | Twp | 3711 | . | |
| Length:ft. Slot | Rng | . 1/E | · - | |
| | Ele | 7 | | |
| 15. Casing and Liner Pipe | | | <u> </u> | سلسلسا |
| Diam. (in.) Kind and Weight | From (Ft.) | To (Ft.) | LO | SHOW CATION IN |
| 8" | 0 | 71 | SEC | TION PLAT |
| 6u | 455 | 576 1 | | • |
| | | | | |
| 16. Size Hole below casing: 51 | in | | l | |
| 17. Static levelft. below cast | | ah ia | | |
| above ground level. Pumping lev | | | | |
| gpm forhours. | '61 IL. | witen bu | mhmi | , ut |
| gpm for nours. | | | | |
| 18. FORMATIONS PASSED THROU | G н | THICK | NESS | DEPTH OF BOTTOM |
| Hud ' | | 20 |) | 20 |
| Sandy Mud | · | | ź | 55 |
| Lime | | Ţto | 00 | 455 |
| Shale | | 1. | 10 | 565 |
| Lime | | 3: | 25 | 890 |
| Sand | | . 1 | 24 | 1014 ·· |
| Shale | | | 7 | 1021 |
| (CONTINUE ON SEPARATE SHEET IF | NECESSARY) | | | |
| SIGNED JE Helling | DA' | ге <u>3-</u> | 31-6 | 7 |

White C 'v III. C of Public Health
Yellow Copy - Wall Contractor
Blue Copy - Well Owner

PARTMENT OF PUBLIC HEALTH, ROOM ..., STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | Type of Well | | - |
|----|--|------------------|-------------|
| | a. Dug Bored Ho | ole Diamir | n. Depthft. |
| | Curb material B | | |
| | | | |
| | b. Driven Drive Pipc. Drilled Finished | in Drift | In Rock Y. |
| | Tubular Gravel Po | | |
| | d. Grout: (KIND) | FROM (Ft.) | TO (Ft.) |
| | | | † |
| | 50% Pozmik | 555 | Surface |
| | | <u> </u> | |
| | <u></u> | <u> </u> | ' |
| 2. | Distance to Negrest: | | • |
| - | Building 300' Ft. | Seepage Tile Fi | eld |
| | Cess Pool | Sewer (non Cast | iron) 150' |
| | Privy | Sewer (Cast iron |) |
| | Septic Tank | | |
| | Leaching Pit | | |
| ٦. | Is water from this well to be us | | |
| ٠. | YesNo | | · · |
| 4. | Date well completed Dec | 16 1967 | |
| 5. | Permanent Pump Installed? | 'es | No X |
| J. | Manufacturer | Type | |
| | Capacitygpm. Dep | | |
| £ | Well Top Sealed? Yes | | |
| ٥. | Well Top Seated! 103 | / N | - X |
| 7. | Pitless Adaptor Installed? Yell Disinfected? Yes | es | 0 |
| | | | |
| 9. | Water Sample Submitted? Ye | 1 <u> </u> | lo |
| | • | • | |
| RE | MARKS: Tost well + | Or Chica | Days |
| | | | To Deep |
| • | Tunnel of | roject | |
| | 25.4777.6 | | |

| CLOCOTONE WINTEN DONNERS WILLEN WEDE THE | GEOLOGICAL | WATER | SURVEYS | WATER | WELL | RECOR |
|--|------------|-------|---------|-------|------|-------|
|--|------------|-------|---------|-------|------|-------|

| | • | | ` . | |
|-------------|---------------------------------------|--|------------------|--------------------|
| 10 Dant | Mines and Minerals permit l | No 390 | 43 Year | 147 |
| 11 Proper | ty owner Lietro Sanitary | District | Well No. | 541-1 |
| Addres | s N bank of Canel | of Blue | Island | Lerks |
| Driller | Jours to Spine | Licens | se No. 14 | |
| | | | nty <u>Co.c.</u> | <u>-</u> |
| | rormation | | 32 | TIT |
| | th <u>546,5</u> to <u>376</u> ft. | | -37M | - |
| | n: Diamin. n:ft. Slot | | 145 | <u> </u> |
| Lengu | iii. 510t | Ele | | |
| 15. Casing | g and Liner Pipe | | ' - | |
| Diam. (in.) | Kind and Weight | From (Ft.) | To (Ft.) | SHOW |
| 120 | Strol | α | | CATION IN |
| 3" | Steel 24.7# | 0+ | 558.0 Let | mit: |
| 8 | 2/62 24./ | | 237 | 10'5, |
| L | <u> </u> | L | L | 30'Eg |
| | lole below casing: | | 14 | NWIC |
| | level #60 ft. below casi | | | ft. |
| | ground level. Pumping lever hours. | e1 It. | wnen pumpin | g at |
| dbiii 10 | r nours. | | | |
| 18. | FORMATIONS PASSED THROUGH | SH | THICKNESS | DEPTH OF BOTTCM |
| Drl | 4 | | 39.5 | 39.5 |
| Stale | and line | | 30.5 | 70,0 |
| | in Circestone | ······································ | 360.0 | 430.0 |
| 4. | | | | 546.5 |
| | refeta Shele | | 116.5 | 1-/ |
| Co/en | a-Platerille | | 3295 | 876.0 |
| 51. Por | for | ····· | 876 | 888 |
| (Ba | ackfilled with Cal- | Seal to | 773 | |
| (CONTINUI | E ON SEPARATE SHEET IF | NECESSARY) | | |
| | | · · · · · · · · · · · · · · · · · · · | | . 1/ |
| SIGNER | sold of | _ DA | TE /2/2 | 760 |
| | 7 11 | | | t to fine |
| ني خ | , , , , , , , , , , , , , , , , , , , | | | |

INSTRUCTION J DRILLERS

White
III. Day of Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | Type of Well a. Dug Bored Hole Diam in. Depth 2/0 ft. Curb material Buried Slab: Yes No b. Driven Drive Pipe Diam in. Depth ft. c. Drilled Finished in Drift In Rock Tubular Gravel Packed d. Grout: |
|-----|--|
| | (KIND) FROM (FL) TO (FL) |
| | Citting |
| | |
| 2. | Distance to Nearest: |
| | Building Ft. Seepage Tile Field |
| | Cess Pool Sewer (non Cast Iron) |
| | Privy Sewer (Cast iron) |
| | Septic Tank 50 Barnyard |
| | Leaching Pit Manure Pile |
| 3. | Well furnishes water for human consumption? YesNo |
| 4. | Permanent Pump Installed? Yes X Date 3-7-19 No 40 |
| 5. | Manufacturer Kan Acker Type W Location We Capacity gpm. Depth of Setting Ft. |
| | Capacity gpm. Depth of Setting 140 Ft. |
| 6. | Well Top Sealed? Yes NoType |
| 7. | Pitless Adapter Installed? Yes K No Book Number BSOAC |
| | Monufacturer Williams Hode Number BSONC |
| | How attached to casing? BDLTEO Well Disinfected? Yes No |
| 8, | Well Disinfected? YesNo |
| 9. | Pump and Equipment Disinfected? Yes X No |
| 10. | Pressure Tank Size gal. Type Location |
| 11. | Water Sample Submitted? YesNo |
| RE | # # 11 puner instructed |
| | The Control of the Co |
| | A 00 20 |
| | |

| | GEO | LOGICAL | AND WATER | SURVEYS | WELL RI | ECO | RD | |
|------------|---|---------------------------------------|---------------|--|-------------------------|-------|-----------------------|------|
| 11. 12. | Address Driller Permit Water i at depi Screen Length | No | in. Slot | OCC UM Licena Date 1 13. Com Sec. Twp Rge Elev | 34.1a 34.1a 34.1a | | P | |
| | a. (in.) | | and Weight | From (Ft.) | To (Ft.) | ••• | SHOW | |
| | 511 | Blac | (15# | 0 | 45 | | CATION IN TION PLAT J | 5-66 |
| | | | | | | ESE | • | |
| | | | | | | • / - | ~ | |
| | above gpm fo | ground leve r hor | | el <u>140</u> it. | when pun | | | |
| 18. | ! | ORMATIONS | PASSED THROUG | CH . | THICKN | E 53 | DEPTH OF BOTTOM | |
| | I | DD <u>So</u> | il | | 0 | | 3 | |
| | (1) | ld v | | | 3 | , | 45 | |
| | | ock. | | | 4 | 5 | 210 | |
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| | · | · · · · · · · · · · · · · · · · · · · | <u>.</u> | | | | | |
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| | | | | | | | | , |
| | | | | | | | | |
| (CC | | Phil | RATE SHEET IF | | o ATE MO | te | h7,197 | ľ |

INSTRUCTIONS TO DRILLERS

White Cop the Display of Palitic Health Yellow Copy — well Conductor Blue Copy — Well Conductor

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL OFFICIAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, \$2761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | b. Driven c. Drilled X Tubular | . Drive Pip . Finished | ried Slab: Yes_ e Diamin. | Noft. |
|----|--------------------------------|---------------------------|------------------------------|-------------|
| | d. Grout: | (KIND) | FROM (Ft.) | TO (ft.) |
| | | | | |
| 2. | Distance to News | est: | | |
| | Building1 | O Ft. | Séepage Tile Fie | eld75 |
| | Cess Pool | | | iron) |
| | | | | |
| | Privy | 50 | Barnvard | |
| | Leaching Pit | | Manure Pile | |
| 3. | Well furnishes wo | ter for human | consumption? Y | es_X No |
| 4. | Date well comple | ted 5/27/ | /78 | |
| 5. | Permonent Pump | Installed? Ye | s Date | No <u>X</u> |
| | Manufacturer | Tv | ne Local | ion |
| | | | | Ft. |
| 6. | | Yes X No | Type | |
| 7. | | | | |
| •• | Manufacturer | | | |
| | How attached to | | | |
| Я | Well Disinfected? | | | |
| | Pump and Equipm | | | No |
| | Pressure Tank Si | | | |
| J. | Location | _ | • • | |
| , | Water Sample Sub | | | |
| | water sample sub MARKS: | mitted: 162 | 110 | |
| 1 | M.V. 1120+ | | | |

GEOLOGICAL AND WATER SURVEYS WELL RECORD

| 10 D | . Tomal am' Tole | ener Od | ur 11 M | | |
|-------------------------|---|----------------------|----------------|------------------|--|
| | ty owner Land on Lakes 123 Willorthwest | | | | |
| Addre: | · W. R. Vehlin | licen | -A No | 102-1 | > |
| Drine 11 Permi | M. E. Vehlin No. 75892 | Date | 3/2 | 1/73 | |
| 12. Water | from Formation | 13. Cou | ntv | J . Ol: | |
| | | | 27 / | - 7 | |
| | th toft. | | • <u>35.5</u> | | |
| 14. Screen | Diamin. | Tw | o. <u>37</u> H | - L | |
| Lengu コロビリンス | i: Diamin. h:ft. Slot 1475¹ E of SW of Ab | Rge | · | - [| |
| 15. Casing | g and Liner Pipe | Ove Fle | v | $^{-}$ \square | 4 |
| Diera. (in.) | Kind and Weight | From (Ft.) | To (Ft.) |] , | SHOW CATION IN |
| 6 | galv. seamless | +1 | 60 | SEC. | TION PLAT |
| | | · | | 105 2 | inich adria |
| | | - | | | es in ecoj. |
| \ | ole below casing: | | L | Lopera- | 1.00.) |
| | ground level. Pumping lev | | | | |
| | r hours. | | - Princip | - | ì |
| | r hours. FORMATIONS PASSED THROUGH | Э Н | тнісі | KNESS | · . |
| | FORMATIONS PASSED THROUG | ЭН | | - | ì |
| 18. | FORMATIONS PASSED THROUG | CH | | KNESS | DEPTH OF BOTTOM |
| Drift Lime | FORMATIONS PASSED THROUG | 5H | 36 | KNE99 | DEPTH OF BOTTOM |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | Б Н | 36 | ки в яя | DEPTH OF BOTTOM |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | Б Н | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | БН | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | СН | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | 5H | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & | FORMATIONS PASSED THROUG | СН | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & Shale | Shale E ON SEPARATE SHEET IF | NECESSARY | 36 | 61 20 | 59 1(20 |
| Drift Lime Lime & Shale | E ON SEPARATE SHEET IF Wehling Well Work | NECESSARY s, Inc. | 36 | 61 20 0 | 59 1(20 1,50 |
| Drift Lime Lime & Shale | Shale E ON SEPARATE SHEET IF | NECESSARY s, Inc. | 36 | 61 20 0 | 59 1(20 1,50 |

1DP 1/74 - ... NB-1 White Copy-III, Dept. c Yellow Copy-Health intractor Blue Copy - W.

FILL IN ALL PERTINENT INFORMATION REQL TED AND MAIL ORIGINAL TO STATE DE-PARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL-RECORD

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| WELL CONSTRUCTION REPORT | and a truck | LUASA |
|--|--|--|
| HEDD CONSTITUTION THE STITE | 10. Property owner West Warfs West | ell No. |
| 1. Type of Well | Address 138 & Calumet Cherry Che | caso Ill |
| a. Duq Bored Hole Diam. 8 in. Depth//35ft. | Driller K+K Gaul OLicense N | 10. 92-518 |
| Curb material Buried Slab: YesNo | 11. Permit No. 49364 Date 8 | -8-72 |
| b. Driven Drive Pipe Diamin. Depthft. | 12. Water from It Peter Sandstool 13. County | Cook |
| c. Drilled X. Finished in Drift In Rock X. | Formation | |
| Tubular Gravel Packed | | 6 Ta |
| d. Grout: | 14. Screen: Diamin. Twp | |
| (KIND) FROM (Ft.) TO (Ft.) | Length:ft. Slot Rge | |
| Cement 0 85 | Elev. £ | 93 |
| | 15. Casing and Liner Pipe | <u> </u> |
| | Diam. (in.) Kind and Weight / From (Ft.) To | (F1.) SHOW LOCATION IN |
| | 12" Talx. 36 la. 0 8. | SECTION PLAT |
| 2. Distance to Negrest: | | |
| Building Ft. Seepage Tile Field | 8" " 26" 85 6 | 98 Sw NW SW |
| Cess Pool Sewer (non Cast iron) | | 300'N 700'E- SW/ |
| Privy Sewer (Cast iron) | 16. Size Hole below casing:in. | |
| Septic Tank Barnyard | 17. Static level <u>300</u> ft. below casing top which i | isft. |
| Leaching Pit Manure Pile | above ground level. Pumping level 460 ft. wh | en pumping at <u>300</u> |
| 3. Is water from this well to be used for human consumption? | gpm for <u>12</u> hours. | |
| Yes X No | 19 FORMATIONS PASSED THROUGH | THICKNESS DEPTH OF |
| 4. Date well completed $8-28-72$ | 18. FORMATIONS PASSED THROUGH | THICKNESS DEPTH OF BOTTOM |
| 5. Permanent Pump Installed? Yes X No No | Over hur den | 0 85 |
| Manufacturer Barnes 40hp Type Sulm. turkin | 1.10 | |
| Capacity 200 gpm. Depth of setting 460 ft. | * Kackformation | 85 5 450 |
| 6. Well Top Segled? Yes X No | Shele | 450 665 |
| | Profite D | |
| 7. Pitless Adaptor Installed? Yes X No No No | Rack | |
| | It leter landstone | 990 1/25 |
| 9. Water Sample Submitted? YesNoNo | The same of the sa | |
| 碱皮脂肪 化分离 化二甲基甲基甲基甲基酚磺基甲基酚甘油医酚甘油医酚甘油医酚甘油 医二氏病 网络斯特里斯 | Ashr. | |
| REMARKS: Truck Wash | | 10000000000000000000000000000000000000 |
| | | |
| owner Instructed | | |
| | | · · · · · · · · · · · · · · · · · · · |
| AND THE RESERVE OF THE PROPERTY OF THE PROPERT | (CONTINUE ON SEPARATE SHEET IF NECESSARY) | |
| The state of the s | | |
| 10/68 25/000 QQQ | SIGNED Caul Knieren DATE | 10-26-72 |
| to an extension of the control of th | DAIL | · · |

White Company of Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

PARTMENT OF PUBLIC HEALTH, ROOM 6.6, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

| 1. | Type of Well | | | | |
|------------|--|--|--|--|--|
| | a. Dug Eo | red Ho | ole Diam. <u>6</u> | in. Depth <u>1:28</u> | _ft. |
| | Curb material | B | uried Slab: Yes | No | |
| | b. Driven | | | | |
| | c. Drilled X | | | | • |
| | | Gravel Po | cked | _• | • |
| | d. Grout: | (KIND) | FROM (Ft.) | TO (Ft.) | _ |
| | | | 1 110 (2 1.) | 1 | _ |
| | | | | | |
| | - | <u>.</u> | ļ | | - |
| | <u></u> | | <u> </u> | | |
| 2. | Distance to Negre | st: | | | |
| | Building | Ft. | Seepage Tile F | ield | |
| | Cess Pool | | Sewer (non Cas | st iron) | |
| | Privy | | | | |
| | Septic Tank | | Barnyard | | · · · · · · |
| | Leaching Pit | | Manure Pile | | · . |
| 3. | Is water from this | well to be us | ed for human co | nsumption? | |
| | Yes X No | o | _ | | • |
| 4. | Date well complet | ed <u>.</u> I\ | <u>17v 18, 1968</u> | | |
| . 5. | Permanent Pump I | nstalled? Y | es | No | e garage |
| | Manufacturer | | Type | | |
| | Date well complet Permanent Pump I Manufacturer Capacity Well Top Sealed? Pitless Adaptor In | _gpm. Dept | th of setting | بالجهائم الرابي المدارين | ft. |
| . 6. | Well Top Sealed? | Yes | No | - 11-1 | A design |
| 7. | Pitless Adaptor In Well Disinfected? | stalled? Y | es | No T | |
| 8. | Well Disinfected? | Yes | ^c No | . 148.5 | |
| | Water Sample Subr | 10 | | The state of the s | A Company of the Comp |
| 9. | , Water Sample Subr | nitted? Yes | | | |
| D D | | in in the state of | en e | | |
| HE | MARKS: | · - trap dist | " | A STATE OF THE STA | Landing to the |
| | | | | a de la | |
| | | A PROPERTY. | | | |
| J) | 加速性變性於 於 | Control of the second | | The state of the s | Art of the state o |
| | 2 | والمتوفوطه والمعامون | | a particular and a particular state of the s | 4 17 14 14 14 14 14 14 14 14 14 14 14 14 14 |

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

| 11. Proper | Mines and Minerals permity owner <u>tord Union</u> I | Hall Local | Vell No |) . | |
|---|--|--|---------------|-----------------------------|--|
| Addres | ss 135th a Lorrence | o Ave., Ohi | caro, | II.li | nois |
| Driller | D. C. Holling | Licens | ie No. 👤 | <u> 2-56</u> | |
| 12. Water | from Formation | 13. Cou | nty <u>Co</u> | 015 | |
| | th toft. | Sec. | 36.10 | _ | |
| - | : Diamin. | Twp | · <u>2′/</u> | | |
| | n:ft. Slot | Rng. | 1 | _ | - - - |
| (E III (| je g and Liner Pipe | | /· | | |
| Diam. (in.) | Kind and Weight | From (Ft.) | To (Ft.) | Lo | SHOW CATION IN |
| 6 | Galv. scauless | 0 | 73 | SEC | TION PLA |
| | | | | | 35/ |
| | | | | 50 | 10 NE |
| 17. Static | level 65 ft. below co | 18 in. Using top which | h is | | |
| above gpm fo | level 05 ft. below coground level. Pumping ler 3 hours. | sing top whice evel <u>165</u> ft. | when pu | mpin | - - |
| gpm fo | ground level. Pumping learning | sing top whice evel <u>165</u> ft. | when pu | ımpino | g at 30 DEPTH OF BOTTOM |
| above gpm fo 18. Cinder | ground level. Pumping learning | sing top whice evel <u>165</u> ft. | THICK | mpin | g at <u>30</u> |
| gpm fo 18. Ginder Boulder | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill gravel | rsing top whice evel <u>165</u> ft. | тніск | mpino mess | g at 30 DEPTH OF BOTTOM |
| gpm fo 18. Cinder Boulder Clay | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill Caravel | rsing top whice evel <u>165</u> ft. | тніск | impino | DEPTH OF BOTTOM 5 |
| above gpm fo | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill gravel | rsing top whice evel <u>165</u> ft. | THICK | impino NESS 5 10 | DEPTH OF BOTTOM 5 15 65 |
| above gpm fo | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill gravel | rsing top whice evel <u>165</u> ft. | THICK | impino 5 5 50 6 | DEPTHOF 5 15 65 |
| above gpm fo | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill gravel | rsing top whice evel <u>165</u> ft. | THICK | impino 5 5 50 6 | DEPTHOF 5 15 65 |
| above gpm for the | ground level. Pumping lar 3 hours. FORMATIONS PASSED THRO fill gravel | nsing top whice evel <u>165</u> ft. | THICK | impino 5 5 50 6 | DEPTHOF 5 15 65 |

White Copy — 1th 1th Yellow Copy — We actor Blue Copy — Well Owner

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GEOLOGICAL AND WATER SURVEYS WELL RECORD

| ILLINOIS | DEF | ARTMENT | OF | PUB | LIC H | EALTH |
|----------|-----|----------|--------|------|-------|-------|
| WF | I.E | CONSTRUC | TIOIT: | N RE | PORT | |

| | 10. Property owner Och Stricker Should | iell No. 73 |
|--|---|--|
| 1. Type of Well | Address 1344 + Palentt Copy of | Picas Del |
| a. Dug Bored Hole Diamin. Depthft. | Address 1342 + Calment Cffry C | No. 401 |
| Curb material Buried Slab: YesNo | 11 Parmit No. 8646 Date N. | Aur. 13,1961 |
| b. Driven Drive Pipe Diamin. Depthft. | | (Cook) |
| c. Drilled X. Finished in Drift In Rock X. | Formation 13. County | - |
| Tubular Gravel Packed | | 36.7/ |
| d. Grut: | | 37N |
| (KIND) FROM (Ft.) TO (Ft.) | Length:ft. Slot Rge. # | 4E 7 |
| None | Elev | |
| Well 9 | 15. Casing and Liner Pipe | |
| | Diam. (in.) Kind and Weight From (Ft.) To | o (Ft.) SHOW |
| | | 65 LOCATION IN SECTION PLAT |
| 2. Distance to Nearest: | | |
| Building 30 Ft. Seepage Tile Field | Ehler Cering 15 | NE NW SW |
| Cess Pool Sewer (non Cast iron) | eln. or to. | in E. |
| Privy Sewer (Cast iron) | 16. Size Hole below casing: 5 in. | |
| Septic TankBarnyard | 17. Static level 20 ft. below casing top which | is ft. |
| Leaching Pit Manure Pile | above ground level. Pumping level 240ft. w | hen pumping at 5 |
| 3. Is water from this well to be used for human consumption? | opm forhours. | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 2. 12 Acter from this west to be ased for unique consumptions | 31 | Contract 2 |
| Ver X No. | | and the second s |
| Yes X No | 18. FORMATIONS PASSED THROUGH | THICKNESS DEPTH OF BOTTOM. |
| 4. Date well completed Warch 20, 1970 | 18. FORMATIONS PASSED THROUGH | THICKNESS DEPTH OF BOTTOM |
| 4. Date well completed What 20, 1970 5. Permanent Pump Installed? Yes X No No | 18. FORMATIONS PASSED THROUGH | THICKNESS DEPTH OF BOTTOM |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Survey Type Sultan | 18. FORMATIONS PASSED THROUGH Sail Sellow Clay | THICKNESS DEPTH OF BOTTOM. |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Supply Depth of setting 31 h ft. | 18. FORMATIONS PASSED THROUGH Soll Jellow Clay | THICKNESS DEPTH OF BOTTOM |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan Capacity Spm. Depth of setting 310 ft. | Soil Jellon blay Blue & Clay | THICKNESS DEPTH OF BOTTOM |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan Capacity Type Sultan Government Type Sultan Representation of the Second State o | 18. FORMATIONS PASSED THROUGH Sail Jellow Clay Blue & Clay | THICKNESS DEPTHOF BOTTOM I J I J 45 60 |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan Capacity Type Sultan Government Type Sultan Representation of the Second State o | Soil Jellon blay Blue & Clay | 1 1 14 15 45 60 5 65 |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Type Bultan. Generally General Depth of setting 31 0 ft. No 7. Pitless Adaptor Installed? Yes X No 8. Well Disinfected? Yes X No | Soil Jellon blay Blue & Clay | 14 15 45 60 |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sulyn. Capacity Supply Depth of setting 31 h ft. 6. Well Top Sealed? Yes X No 7. Pitless Adaptor Installed? Yes X No 8. Well Disinfected? Yes X No 29. Water Sample Submitted? Yes No | Soil Jellon blay Blue & Clay | 1 1 14 15 45 60 5 65 |
| 4. Date well completed What 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Supply Depth of setting 310 ft. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay Change Linestone | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed Whath 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Supply Depth of setting 31 h ft. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay Ethouse Linestone | 1 1 14 15 45 60 5 65 |
| 4. Date well completed What 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Supply Depth of setting 310 ft. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay Change Linestone | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed When 20, 1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity S gpm. Depth of setting 310 ft. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay chronic | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed When 20,1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Type Sultan. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay Chrone Linestone | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed Work 20,1970 5. Permanent Pump Installed? Yes X No Manufacturer Type Sultan. Capacity Type Sultan. 6. Well Top Sealed? Yes X No | Soil Jellow Clay Blue & Clay chronic | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed Whench 20,1970 5. Permanent Pump Installed? Yes X No Manufacturer gpm. Depth of setting 31 h ft. Capacity S gpm. Depth of setting 31 h ft. 6. Well Top Sealed? Yes X No No No Sealed? Yes X No No Yes X | Soil Jettor Clay Blue & Clay Lineatoni (CONTINUE ON SERARATE SHEET IF NECESSARY) | 1 1 14 15 45 60 5 65 264 329 |
| 4. Date well completed Whench 20,1970 5. Permanent Pump Installed? Yes X No Manufacturer gpm. Depth of setting 31 h ft. Capacity S gpm. Depth of setting 31 h ft. 6. Well Top Sealed? Yes X No No No Sealed? Yes X No No Yes X | Soil Jettor Clay Blue & Clay Lineatoni Lineatoni (CONTINUE ON SERARATE SHEET IF NECESSARY) | 14 15 45 60 5 65 264 329 |

ATTACHMENT G

15-MILE SURFACE WATER MAP

ATTACHMENT H

PRELIMINARY ASSESSMENT FORM 2070-12

| \$EPA | 10316000051 |
|--------------|-------------|
|--------------|-------------|

POTENTIAL HAZARDOUS WASTE SITE

| | I. IDELITIFICATION | | |
|---|--------------------|----------------|--|
| | 01 STATE | 02 SITE NUMBER | |
| 1 | IL. | 13 000 608471 | |

| PART 1 - SITE INFORMA | TION AND ASSESSMENT | LZLII |) COO FOR 471 | |
|--|--|--|--|--|
| II. SITE NAME AND LOCATION | | | | |
| 01 SITE NAME (Legal, common, or descriptive name of alte) | 02 STREET, ROUTE NO., OR SPE | CIFIC LOCATION IDENTIFIER | | |
| Clean Harbors of Chicago (AKA Chem-CleAR) | //800 S, S | Long Island, | Avenue | |
| 1 | 1 1 1 | _ | CODE DIST | |
| Chicago OB COORDINATES LATITUDE LONGITUDE | IZ 60617 | Lack | 031 72-02 | |
| 09 COORDINATES LATITUDE LONGITUDE 4 1 4 0 4 4 .0 8 7 3 4 4 6 .0 | Cake Columet | JZ-JN 5 | 50 | |
| 10 DIRECTIONS TO SITE (Starting from nearest public road) | | • | | |
| Take Interstate 94 to 130# Street. Follow 130# Street east to Torrence Duenue. Left | | | | |
| WORTH ON TOTTORE to 122 and St. Follow to Stony Island Avenue to site which | his on the la | off side of the | Read. | |
| III. RESPONSIBLE PARTIES | Loo orners a | | | |
| | 02 STREET (Business, maling, resider | _ | , . | |
| Clean Harbers Environmental Sources Companies | 1200 CROWN | Celony Drive | 10. Bex 9137 | |
| 1 _ | 04 STATE 05 ZIP CODE | 06 TELEPHONE NUMBER | | |
| Duincy | MA 02269 | 16171849-1800 | | |
| 07 OPERATOR (# known and different from owner) | 08 STREET (Business, mailing, resider | | | |
| 09 CITY | 10 STATE 11 ZIP CODE | 12 TELEPHONE NUMBER | | |
| , | | () | | |
| 13 TYPE OF OWNERSHIP (Check anna) B. A. PRIVATE D. B. FEDERAL: D. C. STATE DD. COUNTY DE. MUNICIPAL | | | | |
| (Agency Aerie) | G. UNKNOV | | , , , , , , , , , , , , , , , , , , , | |
| (Specify) 14 OWNER/OPERATOR NOTIFICATION ON FILE (Check of that apply) | | | | |
| | | | | |
| ■ A. RCRA 3001 DATE RECEIVED: 11 17 180 □ B. UNCONTROL | LED WASTE SITE ICERCIA 103 q | DATE RECEIVED:/_ | C NONE | |
| # A. RCRA 3001 DATE RECEIVED: 1/1/17/80 B. UNCONTROL | LED WASTE SITE (CERCLA 103 c) | DATE RECEIVED: / MONTH D | AY YEAR TO C NONE | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD | LED WASTE SITE (CERCLA 103 c) | DATE RECEIVED: / MONTH D | / C NONE | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION BY (Check of that apply) B YES DATE 1/9/90 A EPA B EPA | | STATE D. O. OTHER | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 01 ON SITE INSPECTION ■ YES DATE 1/2 1/9 9 □ A. EPA □ B. EP □ NO MONTH DAY YEAR □ E. LOCAL HEALTH OFF | A CONTRACTOR C. | STATE D. O. OTHER | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION BY (Check of that apply) B YES DATE 1/9/90 A EPA B EPA | A CONTRACTOR C. | STATE D. O. OTHER | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 10 ON SITE INSPECTION WE YES DATE 1/2 1/9 90 NO NO NOTH DAY YEAR 10 E. LOCAL HEALTH OFF 11/4 /7.3 CONTRACTOR NAME(S): 10 SITE STATUS (Check one) 10 A. ACTIVE B. INACTIVE C. UNKNOWN | A CONTRACTOR C. | STATE D. OTHER | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 10 ON SITE INSPECTION WE YES DATE 1/2 1/9 90 | PA CONTRACTOR C. C. CICIAL F. OTHER: | STATE D. OTHER | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 10 ON SITE INSPECTION WES DATE 1/2 / 9 / 9 O | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 10 ON SITE INSPECTION WES DATE 1/2 / 9 / 9 O | PA CONTRACTOR C. C. CICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD OI ON SITE INSPECTION WES DATE 12 1990 ON MONTH DAY YEAR OI 1/4/73 CONTRACTOR NAME(S): OZ SITE STATUS (Check one) A. ACTIVE B. INACTIVE C. UNKNOWN O4 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THOUGHAM | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 01 ON SITE INSPECTION WES DATE 12,19,90 ON MONTH DAY YEAR CONTRACTOR NAME(S): 02 SITE STATUS (CHOCK ONE) A. ACTIVE B. INACTIVE C. UNKNOWN 04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THER ALL CONTRACTOR OF SIDE TORKS OF OPEN CONTRACTOR OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THER ALL CONTRACTOR TORKS 05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION IN YES DATE 12,19,90 A. EPA B. EPA IN O MONTH DAY YEAR CONTRACTOR NAME(S): O2 SITE STATUS (CINCAL ONE) O3 YEARS OF OPEN IN A. ACTIVE B. INACTIVE C. UNKNOWN O4 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THEALY METAL (COLOSIUS, TOXIC) O5 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Care und water Population, Environment | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD 01 ON SITE INSPECTION WYES DATE 12,19,90 NO MONTH DAY YEAR 01/16/7.3 CONTRACTOR NAME(S): 02 SITE STATUS (CHECK ONE) A. ACTIVE B. INACTIVE C. UNKNOWN 04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT. KNOWN, OR ALLEGED TWO CAPACIC (COLORINE, TOXIC) O5 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Carcully water (Topulation, Environment) Sichael Water (Environment) | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD OI ON SITE INSPECTION WES DATE 12,19,90 | PA CONTRACTOR C. FICIAL F. OTHER: | STATE D. OTHER John D. St. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION WES DATE 12,19,90 ON MONTH DAY YEAR CONTRACTOR NAME(S): O2 SITE STATUS (CHOCK ONE) A. ACTIVE OB. INACTIVE OC. UNKNOWN O4 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THORY METALE (CONCOSIUL, TOXIC) O5 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Carcusculanter (Topulation, Environment) Sichael Water (Environment) VApor Relase (Pooulation, Environment) V. PRIORITY ASSESSMENT | PACONTRACTOR C. PICIAL F. OTHER: PATION 1972 BEGINNMAN YEAR ENDING YEAR POSE (TOXIC, Corros) | STATE D. OTHER John D. Str. of (MW) (Specify) UNKNOWN | CONTRACTOR | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD OI ON SITE INSPECTION IN YES DATE 12,19,90 | PA CONTRACTOR FICIAL F. OTHER: PATION 1972 BEGINNING YEAR ENDING YEAR PAGE TOXIC, Corross TOXIC, Corross TOXIC, Corross TOXIC, Corross TOXIC, Corross | STATE D. OTHER John D. Str. of (MW) (Specify) UNKNOWN | CONTRACTOR 2DC-C) | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION WES DATE 12,19,90 NO MONTH DAY YEAR E. LOCAL HEALTH OFF O1/16/7.3 CONTRACTOR NAME(S): O2 SITE STATUS (CHOCK ONE) A. ACTIVE B. INACTIVE C. UNKNOWN O4 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED THOUGHAM (CONSINC, TONIC) O5 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Carcully water (Population, Environment) SIGNAL WATER (Environment) VAPOR RESEASE (POULATION, Environment) V. PRIORITY ASSESSMENT O1 PRIORITY FOR INSPECTION (Chock one, Kingh or medium is checked, complete Part 2: Waste Info O A. HIGH C. LOW | PACONTRACTOR C. PICIAL F. OTHER: PATION 1972 BEGINNING YEAR ENDING YEAR POSE TOXIC, Corross TOXIC, Corross TOXIC, Corross TOXIC, Corross TOXIC, Corross | STATE D. OTHER John D. Str. of (MW) (Specify) UNKNOWN UNKNOWN | CONTRACTOR 2DC-C) | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION WES DATE 12,19,90 | PA CONTRACTOR C. PICIAL F. OTHER: PATION 1972 BEGINNING YEAR ENDING YEAR POSE TOXIC, Costosi TOXIC, Costosi TOXIC, Costosi D. NONE (Mo further a | STATE D. OTHER John D. Str. of (MW) (Specify) UNKNOWN UNKNOWN | CONTRACTOR 2DC-C) | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD O1 ON SITE INSPECTION IN YES DATE 12,19,90 | PA CONTRACTOR F. OTHER: PATION 1972 BEGINNING YEAR ENDING YEAR FORCE, Costos Formation and Part 3 - Description of Hazardo Particular description of Hazardo | STATE D. OTHER John D. Str. of (MW) (Specify) UNIKNOWT A US Conditions and Incidents) Cition receded, complete current dispose | CONTRACTOR 2DC-C) | |
| IV. CHARACTERIZATION OF POTENTIAL HAZARD OI ON SITE INSPECTION IN YES DATE 12,19,90 | PA CONTRACTOR C. PICIAL F. OTHER: PATION 1972 BEGINNING YEAR ENDING YEAR POSE TOXIC, Costosi TOXIC, Costosi TOXIC, Costosi D. NONE (Mo further a | STATE D. OTHER Lafec D. Sfr. of (MW) (Specify) UNKNOWN I UNKNOW | CONTRACTOR 20 CC) N O3 TELEPHONE NUMBER (312 1646-6202 O8 DATE | |

SEPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TL D 000 60847/

| II. WASTE ST | ATES, QUANTITIES, AN | D CHARACTER | ISTICS | | | | * |
|---|--|---------------------------------------|--|--|---------------------------|----------------------|--|
| | ATES (Check all that apply) | 02 WASTE QUANT | | 03 WASTE CHARACTI | ERISTICS Check all that a | LCG(y) | • |
| A SOLID E SLURRY B POWDER FINES F LIQUID C SLUDGE G GAS CUBIC YARDS | | # #aste quantities integendent | | E SOLUBLE I HIGHLY VOLATILE DSIVE F INFECTIOUS J EXPLOSIVE ACTIVE G FLAMMABLE K REACTIVE | | | |
| | | 33,242 | | _ | M NOT AP | PLICABLE | |
| III. WASTE T | YPE | | | <u> </u> | | | |
| CATEGORY | SUBSTANCE N | AME | 01 GROSS AMOUNT | 02 UNIT OF MEASURE | 03 COMMENTS | | |
| SLU | SLUDGE | | 15 | 6.4 | Now-LAZArdo | us treatment. | Studen |
| OLW | OILY WASTE | | 16,500 | ند ي | | who + 40 x d 3 oil 6 | , , |
| SOL | SOLVENTS | | 4186 | >/2 | T | rum storage as | |
| PSD | PESTICIDES | · · · · · · | 1 | | L/ISAN/C 22 | IVA SHOPEF CO | <u> </u> |
| осс | OTHER ORGANIC CH | HEMICALS | | | | | |
| IOC | INORGANIC CHEMIC | ALS | 741,500 | GA : | T. 1.1. 11. | uks and receiving | Late |
| ACD | ACIOS | | 4731 | DR | | cid Arum Storage | |
| BAS | BASES | | 4165 | D2 | | taling Orum Storage | |
| MES | HEAVY METALS | | 4763 | | Storeet in Al | CHINE CIVE STOP | ALP CI |
| IV. HAZARD | OUS SUBSTANCES IS.A | ppendis for most traque | ntly ched CAS Numbers) | | 1 | ·· | |
| 01 CATEGORY | 02 SUBSTANCE N | | 03 CAS NUMBER | 04 STORAGE DIS | POSAL METHOD | 05 CONCENTRATION | 06 MEASURE OF |
| *************************************** | | | | İ | | † | SONGENIA |
| | | | | | | | |
| | | · · · · · · · · · · · · · · · · · · · | | | | | |
| | * See Table | 2 11 71 | toct x | | | | |
| | 1 Jac 12014 | 15 19 14) | 7 - 1 | | | | |
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| · | | | 1 | <u> </u> | | <u> </u> | <u> </u> |
| V. FEEDST | CKS (See Appendix for CAS Numb | 10/5) | | | | | |
| CATEGORY | 01 FEEDSTOO | K NAME | 02 CAS NUMBER | CATEGORY | 01 FEEDS | TOCK NAME | 02 CAS NUMBER |
| FDS | | | | FDS | | | |
| FDS | | • | | FDS | | | |
| FDS | · | | | FDS | | | |
| FDS | | | | FDS | | | |
| VI. SOURCE | S OF INFORMATION ICH | specific references e | g , Elate liles, sample analysis | reports | | | |
| Visual Part B Illinois | S. te Inspection Permit Applications EPA Land Police | December in and r Untien (en | Levisions Levisions Levisions | | | | |

\$EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

I. IDENTIFICATION

101 STATE OZ SITE NUMBER

TL D 000608 471

PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

| II. HAZARDOUS CONDITIONS AND INCIDENTS | |
|--|---|
| 01 E A. GROUNDWATER CONTAMINATION | 02 # OBSERVED (DATE |
| | |
| | y Clean Harbers were sampled in 1974 for metals, Testing |
| | ed a number of netals above the background |
| concentrations found in Testing well 1 | be be to the time of white. |
| 01 # B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: Linkeral | 02 TOBSERVED (DATE.) # POTENTIAL ALLEGED |
| Calcal water county from the sit | le flous into Lake Calumet, Lake Calumet flows |
| 1 - 11. Calum + River Cwhich flows to | Lake Michigan) and the Little Calinet River. The |
| Little Calumet River and Lake Mich | , |
| 01 B C CONTAMINATION OF AIR | 02 OBSERVED (DATE |
| Two releases have occurred from | - the site, one in 1983 and one in 1987. Both |
| releases were due to incoming to | leads of waste producing an air release. No |
| insuries were reported. | • |
| 01 L. D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED: | 02 OBSERVED (DATE) [_ POTENTIAL ALLEGED 04 NARRATIVE DESCRIPTION |
| None documented or observed. | |
| TOUNE ADDONANTER OF CONTROL | |
| | |
| 01 a E. DIRECT CONTACT | 02 D OBSERVED (DATE) DE POTENTIAL ALLEGED |
| 03 POPULATION POTENTIALLY AFFECTED: | 04 NARRATIVE DESCRIPTION |
| None documented - observed | |
| | |
| | |
| 01 E.F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: | 02 W OBSERVED (DATE 1990) POTENTIAL ALLEGED 04 NARRATIVE DESCRIPTION |
| Roome taken on-s. te indicate | low levels of organic and some moderate levels of |
| DAST PRACTICES INcluded | 1 the Stabilians of Pickle liquor in lagoons then |
| Using the stabilized acid-line study | |
| | |
| 01 M G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED | 02 L) OBSERVED (DATE) POTENTIAL ALLEGED 04 NARRATIVE DESCRIPTION |
| The major aguiler used for Drinking is | s the shallow delande aguster. Approximately (6) |
| wells serving 17 people are located | with a five miles of the site. The closest denking |
| well is 1.95 miles south southeast | for the site. |
| 01 III H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED: | 02 (1) OBSERVED (DATE |
| None documented or observed. | |
| · | |
| | |
| 01 🗇 I. POPULATION EXPOSURE/INJURY | 02 (1) OBSERVED (DATE) [] POTENTIAL [] ALLEGED |
| 03 POPULATION POTENTIALLY AFFECTED | 04 NARRATIVE DESCRIPTION |
| None decomented or observed. | |
| | |

SEPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION

10. STATE 02 SITE NUMBER

TL D 000 608 471

| E. HAZARDOUS CONDITIONS AND INCIDENTS (Continue | CO | |
|---|---|--------------------------|
| 01 D. DAMAGE TO FLORA 04 NAFRATIVE DESCRIPTION NONE documented or observed | 02 🗆 OBSERVED (DATE:) 🗆 POTENTIAL | □ ALLEGED |
| 01 🗆 K. DAMAGE TO FAUNA | 02 OBSERVED (DATE:) POTENTIAL | ☐ ALLEGED |
| None documented or observed | | |
| 01 L. CONTAMINATION OF FOOD CHAIN 04 NARRATIVE DESCRIPTION | 02 - OBSERVED (DATE:) - POTENTIAL | □ ALLEGED |
| None observed or observed | | |
| 01 M M UNSTABLE CONTAINMENT OF WASTES | 02 🗆 OBSERVED (DATE:) POTENTIAL | □ ALLEGED |
| 03 POPULATION POTENTIALLY AFFECTED. 295,000 WASte Dickle liquon was a | disposed in lagoons (inknow if liver ens | led) for |
| Stabilizing with line, between | | |
| 01 (N. DAMAGE TO OFFSITE PROPERTY 04 NARRATIVE DESCRIPTION | 02 (.) OBSERVED (DATE:) [] POTENTIAL | □ ALLEGED |
| Nove decemented or observed | | |
| 01 III O. CONTAMINATION OF SEWERS, STORM DRAINS, 104 NARRATIVE DESCRIPTION The Metropolita. | WATPS 02 # OBSERVED (DATE: 1984) POTENTIAL Water Reclamation District of Greater Chica | + o has |
| recorded violations by Clean HAI PH, total cymide, PC.3's, copper, Lats, o | chois from 1984 to 1980 for the following PA ils and grasses, load, wickel, time and other param | conclus! Mucuy eters. |
| 01 (1) P. ILLEGAL/UNAUTHORIZED DUMPING 04 NARRATIVE DESCRIPTION | 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL | |
| Nove documented or observed. | | |
| 05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, O | DR ALLEGED HAZARDS | |
| | | |
| | | |
| H. TOTAL POPULATION POTENTIALLY AFFECTED: | 295,000 | |
| IV. COMMENTS | | |
| | | |
| | | |
| V. SOURCES OF INFORMATION (Cre apecific references, e. g. | , state files, sample enerysis, reports) | |
| Visual Site Inspection December 19, 1 Illinois EPA Air Files | 1990 Illinois EPA Land F.105 Metropolitan Water Reclamation District cy | Guster |
| • | | |

SUPPORTING

DOCUMENTS

REFERENCE SHLET

- Analytical results from effluent samples collected by the Metropolitan Water Reclamation District of Greater Chicago.
- 2. Spill reports from incidents at the Clean Harbors facility.
- 3. Operating permit granted to Clean Harbors by the Illinois Environmental Protection Agency.
- 4. January 22, 1973 Hearing notes at a meeting with Hyon Waste Management.
- 5. April 4, 1973 inspection at the Hyon facility by Mr. Larry Ziemba of the Division of Water Pollution Control (IEPA).

THE



METROPOLITAN SANITARY DISTRICT

OF GREATER CHICAGO

100 EAST ERIE ST., CHICAGO, ILLINOIS 60611 . . . 751-5600

THOMAS S FULLER
NELLIE L JONES
JAMES C KIRIE
SLORIA ALITTO MAJEWSMICHOLAS J MELAS
AURELIA PUCINSKI
MANCY DREW SHEEHAN
RICHARD J. TROY

Cecil Lue-Hing

Director Research & Development

NOTICE OF VIOLATION

| THE METROPOLITAN SANITARY |) | |
|-----------------------------|---|-----------------------|
| DISTRICT OF GREATER CHICAGO |) | VIOLATION NO. 87-309S |
| vs. |) | |
| CHEM CLEAR, INC. |) | SANITARY SEWER |
| | 1 | |

TO: Mr. James Laubsted Plant Manager

11800 South Stony Island Avenue

Chicago, Illinois 60617

Investigation has revealed that you have violated Appendix B of the Sewage and Waste Control Ordinance of the Metropolitan Sanitary District of Greater Chicago and the applicable Illinois law pertaining to pollution. Your violation consists of: discharging an effluent with excessive concentrations of lead, copper, zinc and iron to the sanitary sewerage system, as noted in the table below, all at Station 1A:

| Date | Time | Parameter | Analysis |
|-----------------------|--------------------|-----------|-----------|
| 5/14/87 | 8.0-Hr. Composite | e Lead | 0.51 mg/L |
| 5/27/87 | 24.0-Hr. Composite | e Copper | 3.6 mg/L |
| 6/04/87 | 24.0-Hr. Composite | e Zinc | 33.6 mg/L |
| 6/05/87 to 6/08/87 | 72.0-Hr. Composite | e Zinc | 23.1 mg/L |
| 6/08/87 | 24.0-Hr. Composite | e Lead | 0.97 mg/L |
| 6/22/87 | 24.0-Hr. Composite | e Iron | 50.1 mg/L |
| 6/30/87 | 24.0-Hr. Composite | e Lead · | 0.94 mg/L |
| 7/01/87 | 24.0-Hr. Composite | e Lead | 0.89 mg/L |

An owner or an officer of the respondent, authorized to legally bind the respondent, is directed to appear at the Industrial Waste Division, Enforcement Section, Third Floor, at 111 East Erie Street, Chicago, Illinois, on September 17, 1987 at 10:00 a.m. for a conciliation meeting, to discuss and attempt to resolve the violation and to submit, at that time, a plan and schedule for compliance. Direct phone inquiries should be made to Rion Klawinski at 751-3047.

THESE PROCEEDINGS ARE TECHNICAL AND NON-ADVERSARY IN NATURE. ANYONE APPEAR-ING PURSUANT HERETO MAY APPEAR WITH LEGAL AND/OR TECHNICAL COUNSEL. YOUR FAIL-URE TO APPEAR IN RESPONSE TO THIS NOTICE WILL SUBJECT YOU TO SUCH LEGAL ACTIONS AND SANCTIONS AS ARE PROVIDED BY LAW.

Witnessed: August 13, 1987
The Metropolitan Sanitary District
of Greater Chicago
Frank E. Dalton, General Superintendent

BY:

Cecil Lue-Hing, D.Sc., P.E. Director
Research and Development

CLH/RX

PREPARED BY:

(1) in (1) 1 / 10

Jerome Tobias Chief Enforcement Officer

CLH:RK:iby

CLH:RL:AJS:JT:RK:ib

Nu 1/12

PROOFREAD BY 5 - 7 - 1

(Signature, Typist)

& Eklawins L

DATE

Signature, Writer)

CLEAN HARBOR INC, 11800 S STONY ISLAND, CHGO, SANITARY SEWER DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CLN1S

| | 1 - 21 - 1 | SAMPLE NUMBER | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA- METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB LIMIT | 11 DAILY LIMIT | 12 MONTHLY LIMIT |
|-----|------------|------------------|------------------|---------------------|----------|--------|------------------|---------|-------------|----------|------------------|-------------------|---------------------|
| 1 | . 56 | 25A | s | 1A | 03/28/90 | C24 | РН | 10.40 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| . 2 | 64 | 47B | s | 1A | 05/25/90 | C96 | HG | 12.80 | 15,6,3 | UG/L | | CHECK | CHECK |
| 3 | 71 | 04B | s | 1A | 05/31/90 | C24 | ĦG | 6.80 | 15,6,3 | UG/L | | CHECK | CHECK |
| 4 | 50 | 26C | s | 1A | 07/18/90 | C24 | PB | 0.82 | 0.5 | MG/L | over | | |
| 5 | 83 | 36C | s | 1A . | 08/13/90 | C24 | HG | 67.00 | 15,6,3 | UG/L | OVER | CHECK | CHECK |
| 6 | 12 | 64D | s | 1A | 08/24/90 | C71 | HG | 4.70 | 15,6,3 | UG/L | | | CHECK |
| 7 | 36 | 11D | S | 1A | 09/12/90 | C24 | HG | 3.40 | 15,6,3 | UG/L | | | CHECK |
| | | | | | | | | | | | | | |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| 0 | 1 SAMPLE | 2 SAMPLE | 3 SAMPLE | 4 DATE | 5 TIME | 6 PARA- | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB | 11 DAILY | 12 MONTHLY |
|---|----------|----------|----------|----------|--------|--|---------|-------------|----------|---------|----------|------------|
| | NUMBER | TYPE | STATION | | | METER | | | | LIMIT | LIMIT | LIMIT |
| | | | | | | NAME OF THE PERSON OF THE PERS | | 1990 | | | | |
| 1 | 3111H | S | 1A | 01/18/90 | C24 | PH | 11.40 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 2 | 7899H | S | 1A | 02/09/90 | 1401 | TOT CN | 6.50 | 5 | MG/L | OVER | | |
| 3 | 1000A | S | 1A | 02/27/90 | 1410 | TOT CN | 6.75 | 5 | MG/L. | OVER | | |
| 4 | 2621A | s | 1A | 03/09/90 | 1408 | TOT CN | 5.75 | 5 | MG/L | over | | • |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| \ | SAMPLE NUMBER | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA- METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB LIMIT | 11 DAILY LIMIT | 12 MONTHLY LIMIT |
|---|------------------|------------------|---------------------|----------|--------|------------------|---------|-------------|----------|------------------|-------------------|------------------|
| 1 | 6574C | S | 1A | 01/09/89 | C23 | CU | 3.01 | 3.0 | MG/L | OVER | | |
| 2 | 7183C | s | 1A | 01/18/89 | C23 | FOG | 492.00 | 250.0 | MG/L | OVER | | |
| 3 | 6903D | S | 1A | 04/10/89 | C24 | PB | 0.60 | 0.5 | MG/L | OVER | | |
| 4 | 8085D | S | 1A | 04/18/89 | C23 | PB | 0.56 | 0.5 | MG/L | OVER | | |
| 5 | 2843E | S | 1A | 05/17/89 | C24 | PH | 10.10 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 6 | 4031E | s | 1A | 05/30/89 | C22 | PH | 10.50 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 7 | 8889E | S | 1A | 07/14/89 | C72 | IIG | 16.00 | 15,6,3 | UG/L | OVER | CHECK | CHECK |
| 8 | 9394E | s | 1Å | 07/19/89 | C24 | PH . | 10.40 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 9 | 4167F | s | ·1A | 08/21/89 | C25 | HG | 5.50 | 15,6,3 | UG/L | | | CHECK |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300 DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| 0 | 1 SAMPLE NUMBER | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA- METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB | 11 DAILY LIMIT | 12 MONTHLY LIMIT |
|----|--------------------|------------------|---------------------|----------|--------|------------------|---------|-------------|----------|---------|-------------------|---------------------|
| 1 | 8677H | S | 1A | 01/07/88 | C24 | FOG | 262.00 | 250.0 | MG/L | OVER | | |
| 2 | 8713H | S | 1A | 01/08/88 | C24 | FOG | 262.00 | 250.0 | MG/L | OVER | | |
| 3 | 8893H | S | 1A | 01/12/88 | C24 | FOG | 282.00 | 250.0 | MG/L | OVER | | |
| 4 | 8960H | S | 1A | 01/13/88 | C24 | FOG | 417.00 | 250.0 | MG/L | OVER | | |
| 5 | 8960H | S | 1A | 01/13/88 | C24 | FE | 62.90 | 50.0 | MG/L | OVER | | |
| 6 | 8960H | S | 1A | 01/13/88 | C24 | PB | 1.61 | . 0.5 | MG/L | OVER | | |
| 7 | 9032H | S | 1A | 01/14/88 | C24 | FOG | 486.00 | 250.0 | MG/L | OVER | | |
| 8 | 9076н | S | 1A | 01/15/88 | C24 | PH | 10.10 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 9 | 9076н | S | 1A | 01/15/88 | C24 | FOG | 374.00 | 250.0 | MG/L | OVER | | |
| 10 | 9124H | s | 1A | 01/18/88 | C24 | PH | 10.30 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 11 | 9203H | s | 1A | 01/19/88 | C24 | Pif | 10.30 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 12 | 9671H | s | 1A | 01/27/88 | C24 | FOG | 267.00 | 250.0 | MG/L | OVER | | |
| 13 | 9774H | S | -1A | 01/29/88 | C24 | FOG | 332.00 | 250.0 | MG/L | OVER | | |
| 14 | 9954H | S | 1A | 02/02/88 | C24 | PH | 10.10 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 15 | 1008A | s | 1A | 02/03/88 | C24 | PH | 10.40 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 16 | 1142A | s . | 1A | 02/05/88 | C72 | PH | 10.30 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 17 | 1209A | s | 1A | 02/08/88 | C24 | FOG | 379.00 | 250.0 | MG/L | OVER | | |
| 18 | 1209A | s | 1A | 02/08/88 | C24 | CU | 4.17 | 3.0 | MG/L | OVER | | |
| 19 | 1209A | s | 1A | 02/08/88 | C24 | NI | 11.80 | 10.0 | MG/L | OVER | | |
| 20 | 4525A | S | 1A | 04/04/88 | C24 | TOT CN | 5.85 | 5.0 | MG/L | OVER | | |
| 21 | 4668A | s | 1A | 04/05/88 | C24 | TOT CN | 6.50 | 5.0 | MG/L | OVER | | |
| 22 | 7793A | s | 1A | 05/18/88 | C24 | TOT CN | 7.00 | 5.0 | MG/L | OVER | | |
| 23 | 8309A | s | 1A | 05/25/88 | C24 | FOG | 570.00 | 250.0 | MG/L | OVER | | |
| 24 | 8309A | s | 1A . | 05/25/88 | C24 | HG | 4.10 | 15,6,3 | UG/L | | | CHECK |
| 25 | 8569A | s | 1A | 05/31/88 | C19 | FOG | 402.00 | 250.0 | MG/L | OVER | | |
| 26 | 9567A | s | 1A | 06/13/88 | C24 | PH | 10.30 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 27 | 3293B | s | 1A | 07/15/88 | C72 · | TOT CN | 5.21 | 5.0 | MG/L | OVER | | • |
| 28 | 3514B | s | 1A | 07/19/88 | C24 | PH | 10.20 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 29 | 3514B | s | 1A | 07/19/88 | C24 | TOT CN | 10.70 | 5.0 | MG/L | OVER | | |
| 30 | 3632B | s | 1A | 07/20/88 | C24 | TOT CN | 5.68 | 5.0 | MG/L | OVER | , | |
| 31 | 4843B | S | 1A | 08/04/88 | C24 | ZN | 16.20 | 15.0 | MG/L | OVER | | |
| 32 | 4843B | s | 1A | 08/04/88 | C24 | cu | 4.15 | 3.0 | MG/L | OVER | | |
| 33 | 4843B | S | 1A | 08/04/88 | C24 | PB | 0.83 | 0.5 | MG/L | OVER | | |
| 34 | 5135B | s | 1A | 08/09/88 | C11 | PH | 10.20 | 5.0 TO 10.0 | PH UNITS | OVER | | |
| 35 | 5562B | s | 1A | 08/15/88 | C24 | NI | 10.70 | 10.0 | MG/L | OVER | | |
| 36 | 5946B | s | 1A | 08/19/88 | C54 | ZN | 42.40 | 15.0 | MG/L | OVER | | |
| 37 | 5946B | S | 1A | 08/19/88 | C54 | cu | 30.20 | 3.0 | MG/L | OVER | | |
| 38 | 5946B | s | 1A | 08/19/88 | C54 | TOT CR | 50.80 | 25.0 | MG/L | OVER | | |
| 39 | 5946B | s | 1A | 08/19/88 | C54 | FE | 350.00 | 50.0 | MG/L | OVER | | |
| 40 | 5946B | s | IA | 08/19/88 | | NI | 23.20 | 10.0 | MG/L | OVER | | |
| 41 | 5946B | s | 1A | 08/19/88 | C54 | PB | 1.68 | | MG/L | OVER | | |
| 42 | 6229B | S | 1A | 08/24/88 | | NI | 12.20 | 10.0 | MG/L | OVER | • | |
| 43 | 6950B | 5 | 1A | 09/06/88 | C24 | PB | 0.57 | 0.5 | MG/L | OVER | • | |
| 44 | 8696B | s | 1A | 09/27/88 | C24 | HG | 4.00 | | UG/L | -== | | CHECK |
| 45 | 8807B | s | 1A | 09/28/88 | C24 | TOT CN | 6.55 | | MG/L | OVER | | |
| 46 | 8807B | S | 1A | 09/28/88 | C24 | HG | | 15,6,3 | UG/L | | | СНЕСК |
| 47 | 8931B | s. | 1A | 09/29/88 | C24 | PH- | 10.90 | 5.0 TO 10.0 | PH UNITS | OVER | | C.LUCK |
| 48 | 8931B | S | 1A | 09/29/88 | C24 | TOT CN | 11.70 | 5.0 | MG/L | OVER | | |
| 49 | 8931B | s | 1A | 09/29/88 | | HG | | 15,6,3 | UG/L | | CHECK | CHECK |
| | | | | | | | | | | | | |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300 DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| (| SAMPLE | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA- METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB LIMIT | 11 DAILY LIMIT | 12 MONTHLY . |
|----|--------|------------------|---------------------|----------|--------|------------------|---------|------------|---------|------------------|-------------------|--------------|
| 50 | 9152B | s | 1A | 10/03/88 | C24 | РВ | 1.96 | 0.5 | MG/L | OVER | , | · . |
| 51 | 9261B | s | 1A | 10/04/88 | C24 | PB | 1.39 | 0.5 | MG/L | OVER | | |
| 52 | 9367B | S | 1A | 10/05/88 | C24 | HG | 4.80 | 15,6,3 | UG/Ļ | | | CHECK |
| 53 | 9511B | S | 1A | 10/06/88 | C24 | HG | 4.70 | 15,6,3 | UG/L | | | CHECK |
| 54 | 9608B | s | 1A | 10/07/88 | C72 | TOT CN | 8.50 | 5.0 | MG/L | OVER | | |
| 55 | 9608B | s. | 1A | 10/07/88 | C72 | PB | 0.78 | 0.5 | MG/L | OVER | | |
| 56 | 9608B | S | Al | 10/07/88 | C72 | 11G | 8.20 | 15,6,3 | UG/L | | CHECK | CHECK |
| 57 | 9794B | s | 1A | 10/11/88 | C24 | FE | 70.10 | 50.0 | MG/L | OVER | | |
| 58 | 9794B | S | · 1A | 10/11/88 | C24 | PB | 0.70 | 0.5 | MG/L | OVER | | |
| 59 | 3146C | s | 1A | 11/10/88 | C96 | FOG | 340.00 | 250.0 | MG/L | OVER . | | |
| 60 | 3814C | S | 1A | 11/21/88 | C24 | HG | 3.20 | 15,6,3 | UG/L | | | CHECK |
| 61 | 3921C | s | 1A | 11/22/88 | C24 | HG | 5.30 | 15,6,3 | UG/L | | | CHECK |
| 62 | 4689C | S | 1A | 12/05/88 | C24 | FOG | 497.00 | 250.0 | MG/L | OVER | | |
| 63 | 5896C | s | 1A | 12/21/88 | C24 | FOG | 326.00 | 250.0 | MG/L | OVER | | |
| 64 | 6191C | s · | 1A | 12/29/88 | C120 | FOG | 299.00 | 250.0 | MG/L | OVER | | |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| .0 | 1 SAMPLE NUMBER | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB LIMIT | 11 | DAILY LIMIT | 12 MONTHL |
|----|--------------------|------------------|---------------------|----------|--------|-----------------|---------|-------------|----------|------------------|----|----------------|-----------|
| 1 | 7562F | U | 1A | 1/20/87 | C22 | PB | 0.73 | 0.5 | MG/L | OVER | | Mar 100 H Mar. | |
| 2 | 7612F | U | 1A | 1/22/87 | C24 | PB | 1.05 | 0.5 | MG/L | OVER | | | |
| 3 | 7614F | บ | 1A | 1/23/87 | C72 | PB | 0.52 | 0.5 | MG/L | OVER | | - | |
| 4 | 7765F | U | 1A | 1/26/87 | C24 | PH | 10.50 | 5.0 TO 10.0 | PH UNITS | OVER | | | |
| 5 | 7769F | บ | 1A | 1/28/87 | C25 | PH | 10.20 | 5.0 TO 10.0 | PH UNITS | OVER | | | |
| 6 | 8100F | U | 1A | 2/4/87 | C24 | PH | 10.20 | 5.0 TO 10.0 | PH UNITS | OVER | | | |
| 7 | 8755F | υ | 1A | 2/17/87 | C24 | PH | 10.10 | 5.0 TO 10.0 | PH UNITS | OVER | | | |
| 8 | 1356G | บ | . 1A | 3/18/87 | C24 | FE | 70.20 | 50.0 | MG/L | OVER | | | |
| 9 | 2383G | U | '1A | 4/8/87 | C24 | HG | 4.00 | 15,6,3 | UG/L | | | | CHECK |
| 10 | 4416G | Ŝ | 1A . | 5/14/87 | C8 | PB | 0.51 | 0.5 | MG/L | OVER | | | |
| 11 | 4972G | s | 1A | 5/27/87 | C24 | cu | 3.60 | 3.0 | MG/L | OVER | | | |
| 12 | 5519G | s | 1A | 6/4/87 | C24 | ZN | 33.60 | 15.0 | MG/L | OVER | | | |
| 13 | 5598G | S | 1A | 6/5/87 | C72 | ZN | 23.10 | 15.0 | MG/L | OVER | | • | |
| 14 | 5665G | S | 1A - | 6/8/87 | C24 | PB | 0.97 | 0.5 | MG/L | OVER | | | |
| 15 | 6505G | s | 1A | 6/22/87 | C24 | FE | 50.10 | 50.0 | MG/L | OVER | | | |
| 16 | 7100G | S | 1A | 6/30/87 | C24 | PB | 0.94 | 0.5 | MG/L | OVER | | | |
| 17 | 7143G | S | 1A | 7/1/87 | C24 | PB | 0.89 | 0.5 | MG/L | OVER | | | |
| 18 | 8765G | S | 1A | 7/30/87 | C24 | CU | 3.56 | 3.0 | MG/L | OVER | | | |
| 19 | 1365H | s | 1A | 8/31/87 | C24 | FOG | 272.00 | 250.0 | MG/L | OVER | * | | |
| 20 | 1476н | s · | 1A | 9/1/87 | C24 | CU | 4.63 | 3.0 | MG/L | OVER | | | |
| 21 | 1712H | s | 1A | 9/8/87 | C24 | RR CN | 2.52 | 2.0 | MG/L | OVER | | | |
| 22 | 1796Н | s | 1A | 9/9/87 | C24 | PB | 0.76 | 0.5 | MG/L | OVER | | | |
| 23 | 1871H | s | 1A | 9/10/87 | C24 | RR CN | 2.40 | 2.0 | MG/L | OVER | | | |
| 24 | 3246H | S | 1A | 9/18/87 | C24 | cu | 5.38 | 3.0 | MG/L | OVER | | | |
| 25 | 5080H | s | 1A | 10/19/87 | C23.5 | CU | 4.54 | 3.0 | MG/L | OVER | | | |
| 26 | 5845H | s | 1A | 11/2/87 | C24 | CU | 11.00 | 3.0 | MG/L | OVER | | | |
| 27 | 6205H | S | 1A | 11/9/87 | C24 | FE | 51.90 | 50.0 | MG/L | OVER | | | |
| 28 | 6809H | S | 1A | 11/19/87 | C24 | FE | 55.80 | 50.0 | MG/L | OVER | | | |
| 29 | 7008H | S | 1A | 11/24/87 | C24 | FOG | 373.00 | 250.0 | MG/L | OVER | | | |
| 30 | 7008H | s | 1A | 11/24/87 | C24 | ZN | 19.50 | 15.0 | MG/L | OVER | | | |
| 31 | 7008H | S | 1A | 11/24/87 | C24 | FE | 51.20 | 50.0 | MG/L | OVER | | | |
| 32 | 7042H | s | 1A | 11/25/87 | C24 | TOT CN | 10.05 | 10.0 | MG/L | OVER | | | |
| 33 | 7238H | S | 1A | 12/1/87 | C24 | FOG | 543.00 | 250.0 | MG/L | OVER | | | |
| 34 | 7238H | s | 1A | 12/1/87 | C24 | CU | 4.50 | .3.0 | MG/L | OVER | | | |
| 35 | 7238H | S | Al | 12/1/87 | C24 | FE | 65.20 | 50.0 | MG/L | OVER | | | |
| 36 | 7238H | S | 1A | 12/1/87 | C24 | PB | 0.60 | 0.5 | MG/L | OVER | | | |

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300 DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

| • | MPLE .√UMBER | 2 SAMPLE TYPE | 3 SAMPLE STATION | 4 DATE | 5 TIME | 6 PARA- METER | 7 VALUE | 8 LIMIT(S) | 9 UNITS | 10 GRAB OR SOLO LIMIT | 11 | DAIL | Y LIMIT |
|---|-----------------|------------------|---------------------|---------|--------|------------------|---------|-------------|----------|--------------------------|----|------|------------|
| | 9630D | s | 1A | 1/2/86 | C13.66 | FE | 59.10 | 50.0 | MG/L | OVER | | | |
| 1 | 9630D | s | 1A | 1/2/86 | C13.66 | PB | 1.59 | 0.5 | MG/L | OVER | | | |
| 3 | 9696D | S | 1A | 1/6/86 | C23 | PB | 0.80 | 0.5 | MG/L | OVER | | | |
| 1 | 9734D | s | 1A | 1/7/86 | C15.33 | PB | 0.51 | 0.5 | MG/L | OVER | | | |
| 5 | 9780D | S | 1A | 1/8/86 | C20 | FOG | 328.00 | 250.0 | MG/L | OVER | | | |
| • | 9931D | s | 1A | 1/13/86 | C18 | FOG | 377.00 | 250.0 | MG/L | OVER | | | |
| 7 | 1215E | S | lA | 1/21/86 | C24 | FOG | 260.00 | 250.0 | MG/L | OVER | | | |
| 3 | 1215E | S | 1A | 1/21/86 | C24 | PB | 1.04 | 0.5 | MG/L | OVER | | | |
| 3 | 1270E | s | 1A | 1/22/86 | C24 | PB | 1.38 | 0.5 | MG/L | OVER | | | |
|) | 1416E | s | 1A | 1/27/86 | C23 | FOG | 413.00 | 250.0 | MG/L | OVER . | | | |
| - | 1556E | S | . 1A | 1/30/86 | C25 | FOG | 786.00 | 250.0 | MG/L | OVER | | | |
| 2 | 1802E | S | 1A | 2/5/86 | C24 | FOG | 301.00 | 250.0 | MG/L | OVER | | | |
| 3 | 1802E | s | 1A | 2/5/86 | C24 | CU | 5.46 | 3.0 | MG/L | OVER | | | |
| ; | 2464E | s | 1A | 2/24/86 | C24 | PB | 1.74 | 0.5 | MG/L | OVER | | - | |
| | 2529E | s | 1A | 2/25/86 | C24 | PB | 2.15 | 0.5 | MG/L | OVER | | | |
| | 2890E | s | 1A | 3/5/86 | ⊂27 | FOG | 278.00 | 250.0 | MG/L | OVER | | | |
| ` | 5059E | s | 1A | 4/25/86 | C72 | PB | 0.73 | 0.5 | MG/L | OVER | | | |
| | 8133E | s | 1A | 7/1/86 | C24 | TOT CN | 10.80 | 10.0 | MG/L | OVER | | | |
| | 82 27E | s | 1A | 7/2/86 | C24 | TOT CN | 17.00 | 10.0 | MG/L | OVER | | | |
| | 1909F | s | 1A | 8/25/86 | C24 | HG | 5.70 | 15,6,3 | UG/L | | | | |
| | 2306F | s | 1A | 9/4/86 | C24 | FOG | 333.00 | 250.0 | MG/L | OVER | | | |
| | 2960F | s | 1A | 9/19/85 | C72 | PH | 4.70 | 5.0 TO 10.0 | PH UNITS | UTIDER | | | |
| | 393F | U . | 1A | 11/5/86 | C24 | FE | 58.80 | 50.0 | MG/L | OVER | | | |
| | 4961F | U . | 1A | 11/6/86 | C24 | RR CN | 4.65 | 2.0 | MG/L | OVER | | | |

THEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300 DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

12 MONTHLY COMP LIMIT

20 CHECK

2

CHEM-GLEAR®

GUITE 915 • 992 OLD EAGLE SCHOOL ROAD • WAYNE, PENNSYLVANIA 19087 • (215) 687-8990

REGEIVED

June 19, 1985

JUN 21 1985

Mr. Wayne Pearson RCRA Activities U.S. EPA, Region V P.O. Box A-3587 Chicago, IL 60690 SWB-AIS O.S. EPAL REGION V

RECEIVED

JUL 25 1985

IEPA-DLPC

Dear Mr. Pearson:

Thank you for your telephone call of introduction last week. As promised, I have enclosed the completed Certification Regarding Potential Releases from Solid Waste Management Units for ChemClear's Chicago facility.

Only a single release of material from hazardous waste management unit has occurred during the operation of this facility. On January 6, 1985 approximately 100,000 gallons of sludge was spilled inside of the lined tank farm and the process/office building. The entire area of the spill was contained and the recovered sludge was returned to a sound tank.

If you should require additional information related to this matter or desire clarification on any aspect of our Part B application, please feel free to call me.

Sincerely

Ruth C. Niesen

Environmental Coordinator

RCN/job

Enclosures

cc: Greg Valocchi, Plant Manager Jim Laubsted, Plant Engineer

COPY2

CERTIFICATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

| E, | ACILITY NAME: _ | ChemClear, Incorp | orated | and the second s | | a de |
|------|--|--|---|--|--|--|
| EPA | I.D. NUMBER: | ILD 000608471 | | | | |
| LOCA | ATION CITY: | Chicago | | | | _ |
| | STATE: | Illinois | | | , | |
| 1. | closed) at your | of the following so facility? NOTE - N IN YOUR PART B AP | DO NOT IN | | | |
| | ٠. | | • | YES | NO | |
| | Storage TarContainer SInjection WastewaterTransfer StWaste Recycle | nk (Above Ground) nk (Underground) Storage Area Wells Treatment Units | on | | X | |
| 2. | provide a description of in each unit would be considered. Also includes posed on and | Yes" answers to any ription of the wast t. In particular, dered as hazardous alude any available in the dates of dispard include capacity avaliable. | es that we please foc wastes or data on q osal. Ple | re stored, us on wheth hazardous d uantities d ase also pr | treated or disponer or not the was constituents under the constituents and constituents was rovide a descrip | osed astes er tes tion |
| | | | | | | |
| - | | | | | | |
| | | | | | | |
| | | | | | | |

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII Of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the part or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

On January 6, 1985 approximately 100,000 gallons of metal hydroxide sludge was spilled inside of the process/office building and inside of the pvc-lined tank farm due to the rupture of the pipeline leading from the sludge concentrator to the filter press. All sludge was contained and did not contact groundwater or soil outside of the tank farm. All sludge has been removed from the process/office building returned to the sludge concentrator.

All sludge has been removed from the process/office building returned to the sludge concentrator and there has been no release of hazardous wastes or constituents to the environment 4. In regard to the prior releases described in Number 3 above, please provide

| | | | |
|------|------|--|--|
| • | | | |
| | | | |

(for each unit) any analytical data that may be available which would des-

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

| Ruth C. Niesen, | Environmental Coordinator |
|-----------------|-----------------------------|
| yped Name | and Title |
| (h. An C) | $\mathcal{A}_{\mathcal{A}}$ |

June 13, 1985

Date

Signature

| _ | State of Illinois Date of Call |
|----|--|
| | Environmental Protection Agency Time of Call 2:51 |
| | Division of Air Pollution Control Received by <u>E.O.</u> |
| | and the second of the second o |
| | COMPLAINT RECORD |
| | |
| | Suspect Source Information: Complainant Information: |
| | Name Chem-Clear Name John Schloss berge |
| | Address 11800 & Stoney Island ' Address 12100 S. Stoney Island |
| | City, Zip Chicago III. City, Zip Chicago |
| | Area Code/Phone 646-6202 Area Code/Phone 646-2100 |
| | I.D. # 031 600 BTE |
| | |
| | Type of Complaint: [] Dust [] Odors [] Smoke X] Other Vapor |
| | Nature of Complaint: Orange - Brown - Yellow color vapors being |
| | emitted from attruck unloading at Chem-Clear No Notica |
| | odor. Wind condition is causing the vapor cloud to be divert |
| | away from the complainant. However, the complainant is were |
| | away mon or complinant. However, say supplied to a series |
| | a bout the make up of the vapor. Wishes to be called back. |
| | |
| | Referred to: Ma Unit A [] Unit B [] Unit C [] Other |
| | Comments: Culled Chans Class sonks to Mr. Comes Valorchi Pl |
| | Comments: <u>Called Chem-Clear</u> , spoke to Mr. Coney Valacchi, Pl |
| | The emissions occurred when a truck containing plating waste could |
| | not unload its waste due to a stuck value. A second truck from the same |
| | corrier that contained waste water from a lagron, after unloading his |
| | material, decided decided that bosed on initial lab reports he would |
| | then into the holding pit. Due to this action, an unforesen reaction had occur |
| | |
| Co | [] DISTRIBUTION: Original and Copy - Unit Supervisor Copy - W 7 |
| | causing the lenower plane. The duration of the incident was ten minute in |
| | KK/rs/1254A (9/08/83) |
| | to the need of out-fitting a worker with protective equipment in order to |
| | shut off the pump. Facility believes it was causes by my oil and grease |
| | the transfer of a day of a second property of the second o |

exactly what happened and what the vapor was hab surples of the two mixtures, when mixed did not fund. Guess withat them may be some residule material in the value of the cecond, probabely as waster oilor grease.

Will open upthe trailer hatch to determine if any more fund present. If they are, they will fill the truck with water to clear the funes.

Cracked open truck, found some residue of the gas in the truck. Chemist believes that is nitnogen dioxide. What is in the truck is not that much is volume. What they plan to do is to presourize the truck in order bubble the gas through the water to form the mitross ritric acid.

Gerinte

"CHEM-GLEAR"

(312) 646-626-6

11800 S. STONY ISLAND AVER CHICAGO, ILLINOIS 606

031600BTE

03/6008

December 20, 1983

RECEIVED CHICAGO OFFICE

DEC 2 2 1983

Illinois Environmental Protection Agency Division of Air Pollution Control 1701 South First Avenue Maywood, IL 60153 ENVIRONMENTAL PROTECTION AGEN(
STATE OF ILLINOIS

Attn: Edward J. Osowski

Field Operations Section

Dear Ed:

On November 8, 1983 an incident occurred on the Chem-Clear property at 11800 South Stony Island Avenue, Chicago which resulted in an air emission. The following summary will attempt to explain to the best of our ability what transpired.

At approximately 3:30 PM on November 8, 1983 a truck owned and operated by Chemical Services (4601 W. 138th St., Crestwood, IL) entered the Chem-Clear treatment facility. This truck (SWH Registration 1301005) was carrying a load of Sulfuric/Nitric Acid generated by Arlington Plating (600 S. Vermont, Palatine, IL) (manifest & perspective analysis attached).

When the driver opened the hatch on top of the truck, for the purpose of sampling the waste, a cloud, orangish in color, streamed from the open truck. The driver climbed down from the tanker and one of Chem-Clear's operators (Robert Sheahan), waiting to sample the load, went to our lab and requested that the chemist (Ellen Riley) look at the truck. Ellen, after viewing the plume from the truck, came into the office and informed me of what she thought was occurring. I immediately went to the truck pad and had our operator put on a respirator and climb up the tanker and close the hatch.

Your call to us occurred somewhere during the tail end of the above. Once the truck was secure the chemist and myself looked at the background analysis of the waste, called Chemical Services (Charles Wessels) and attempted to surmise what was chemically occurring. The general consensus was that nitrogen dioxide was being released from the truck.

Chem-Clear had cleaned and rinsed pit #2 to receive this load due to its nitric content for the offloading, earlier in the day.

Page 2 Illinois Environmental Protection Agency December 20, 1983

Once our conclusions were in order a solution, or solutions were tabled. The truck in question could not offload because the safety valve stem was damaged (assumption's the acid waste in the load worked through the packing and attacked the valve stem). The load was transferred from the truck to another Chemical Service truck, which came on site at this time. The second truck off loaded the Arlington waste into our pit #2. During the offloading the pipe from the internal to the external valve was corroded and developed a leak. Offloading stopped until a piece of 6" PVC was slipped over the hose and joint and offloading was finished. This truck was thoroughly flushed with water and received into pit #1 for treatment.

All during the above the original truck was left untouched until we could direct our attention toward a solution.

The original truck's hatch was opened to ascertain whether or not a gaseous problem still existed. A less intense cloud was observed. A hose (water) was inserted into the hatch and the hatch was pulled snug. The truck was filled with water and once again emptied via truck #2.

The damaged valve of the original truck was replaced at this time and both trucks were thoroughly rinsed.

At no time during the entire rectification process was either myself and a representative of Chemical Services not on the scene. All personnel involved were properly equipped (gloves, respirators etc.). All operations were performed on the truck pad which is properly constructed to collect any liquid waste fall out.

We at Chem-Clear fully understand the potential severity of an unchecked air emission of this nature, however given the alternative of rejecting the load and sending the problem elsewhere Chem-Clear felt it was better equipped to solve rather than to ignore. The cooperation of Chemical Services was commendable and the attention of the Division of Air Pollution Control during the corrective action time was appreciated.

If any additional clairification is needed this office is more than willing to provide any data requested.

Sincerely, Alregoy E. Valocchi 116

Gregory E. Valocchi General Manager

Chicago Facility

GEV/1b



Illinois Environmental Protection Agency P. O. Box 19276. Springfield, IL 62794-9276

217/782-6762

Refer to: 0316000051 -- Cook County

Clean Harbors of Chicago, Inc.

ILD000608471

Permit No.: 1980-36-0P

Log No's.: 1990-478 (1990-476, 1990-277, 1990-250, 1990-156, 1990-155, 1990-007, 1989-237, 1984-759, 1985-219, 1986-083, 1986-101, 1986-145, 1987-022, 1988-294, 1989-007, 1989-173)

Permit File

October 22, 1981 Revised December 20, 1990

Clean Harbors of Chicago, Inc. ATTN: James R. Laubsted 11800 South Stony Island Avenue Chicago, Illinois 60617

Gentlemen:

Permit is hereby granted to Clean Harbors, to operate a solid waste management site located on 26.5 acres in that part of the East 1/4 of fractional Section 23 and of the West 1/2 of Section 24, all in Township 37N, Range 14E of the 3rd P.M., south of the Indian Boundary Line and that part of Lake Calumet in said Township and Range, as more specifically described in the original application for a development permit.

Final plans, specifications, application(s) and supporting documents as submitted and approved shall constitute part of this permit and are identified on the records of the Illinois Environmental Protection Agency, Division of Land Pollution Control by the permit number(s) and log number(s) designated in the heading above. The permit is issued subject to the standard conditions attached hereto and incorporated herein by reference, and further subject to the following special conditions:

- 1. This permit allows Clean Harbors to operate the following units:
 - Α. Four (4) 7,000 gallon in-ground, lines concrete receiving tanks.
 - В. A 200,000 gallon steel, primary settling tank.
 - C. A 400,000 gallon steel, mix tank.
 - D. A chemical treatment unit (IPSI Model #SAL2-100).
 - E. Three (3) gravitators/clarifiers (IPSI Model #ESS-075).
 - F. A 4,000 gallon steel, effluent collection tank.
 - G. A 175,000 gallon steel, effluent discharge tank.



- H. A 13.000 gallon in-ground, lined, concrete, sludge storage tank.
- A 200,000 gallon steel, sludge concentrator tank. I.
- J. A 10,000 gallon steel, sludge conditioning tank.
- K. A plate and frame filter press (Netzch Model 1200/88).
- A chemical reduction/oxidation pretreatment system (for hexavalent chrome, cyanide, phenolic and ammonia contaminated waste streams) consisting of (3) reactor vessels, each equipped with a air scrubber emission control system.
- An oily wastewater pretreatment system consisting of two (2) 6,000 gallon steel, oil/water separators, a heat exchanger, a 6,000 gallon steel (oil storage) tank and a 6,000 gallon steel (cuff storage) tank.
- N. A carbon adsorption system (Baron-Blakeslee Dual Bed Model No. CAV40-EX), including a water/solvent condensate separation unit designed to control organic emissions for the aerated storage/mix tanks and oil/water separators.
- O. A sludge dewatering system consisting of a 10,000 gallon sludge feed tank and a trailer-mounted recessed plate and frame filter press (Netzch Model 1200/88).
- P. Two (2) 300 gallon mixing chambers.
- Q. One (1) 850 gallon flocculation tank.
- R. One (1) 1400 gallon surge tank.
- One (1) cooling tank and cooling tower.

T. All pipping, sumps, pumps, containment systems and other appurtenances as described in the afore referenced application(s).

| U. | Uni | t Designation | Size | # of Drums |
|----|-----|---|--|------------------------|
| | Con | tainer Storage Area | | • |
| | a. | (within Process Building #2) | | |
| | | i) Staging areaii) Acidic drums areaiii) Alkaline drums areaiv) Organic drums area | 20 x 26 29 x 26 12 x 26 24 x 26 | 72 192 96 192 |

- outside storage area #1 (for development only)
 - i) Medical waste 400 20 x 50



outside storage area #2 (for development only) C.

| i) Staging area | 41 x 51 | 80 |
|------------------|---------|-----|
| ii) Oxidizers | 20 x 30 | 96 |
| iii) Reactives | 20 x 30 | 96 |
| iv) Poisons | 20 x 30 | 96 |
| v) Flammable #1 | 50 x 42 | 160 |
| vi) Flammable #2 | 50 x 42 | 160 |

No waste may be received for the outside storages area until such time as an operating permit is issued by this Division for each area.

- The treated effluent shall meet the requirements specified by the 2. Metropolitan Sanitary District of Greater Chicago and this Agency's Division of Water Pollution Control, including Permit No. 1986-EP-1157.
- The facility is permitted to accept for storage and treatment liquid 3. hazardous and special wastes with these parameters and within the following limitations:

| ph Suspended Solids Arsenic Barium Cadmium Chromium Copper Iron Lead Nickel Phenol Selenium Silver Zinc Cyanide Mercury Sulfide (reactive) | Range 0 to 14 up to 10% 10,000 ppm 10,000 ppm 10,000 ppm 250,000 ppm 250,000 ppm 250,000 ppm 150,000 ppm 150,000 ppm 150,000 ppm 10,000 ppm 10,000 ppm 10,000 ppm 10,000 ppm 10,000 ppm |
|--|---|
| Sulfide (reactive) | 20,000 ppm |

The facility is also permitted to accept for storage and treatment for purposes of dewatering solely non-hazardous semi-solids and sludges.

- 4. The concentrations of Mercury in the wastes accepted for treatment shall not exceed 3 ppb unless Clean Harbors demonstrates that their treatment is effective for that particular waste stream in reducing the concentration of Mercury below this criteria. Documentation of the demonstration shall be maintained at the facility and shall be made available for inspection upon request.
- £. Wastes containing any amount of the following items shall not be permitted for acceptance at the facility: PCB, PBB, Insecticides and Pesticides.



- Wastes containing solvents of a quantity sufficient to render the waste 6. ignitable or explosive shall not be permitted for treatment at the facility. Aqueous wastes containing treatment levels of organics may not be accepted at this facility unless a treatment demonstration is made to the Agency in the form of an attachment to the special waste stream permit application(s) submitted to the Agency for review and approval.
- Special wastes received at the site for storage and treatment shall be transported to the facility utilizing the Agency's supplemental waste stream permit and manifest systems.
- Special wastes generated at the facility for disposal, storage, 8. incineration, recovery or further treatment elsewhere shall be transported to the receiving facility utilizing the Agency's supplemental waste stream permit and manifest systems.
- This facility shall be operated in accordance with this Agency's Division 9. of Air Pollution Control Permit Number 83120017.
- 10. All loading/unloading of special wastes shall be accomplished over spill containment devices.
- Any modification to the facility shall be subject of an application for supplemental permit for site modification submitted to this Agency.
- Permittee shall notify the Agency of any changes from the information submitted to the Agency in its application for a developmental and operating permit for this site. Permittee shall notify the Agency of any changes in the names and addresses of both beneficial and legal titleholders, to the herein permitted site. Such notification shall be made in writing within fifteen (15) days of such change and shall include the name or names of any parties in interest and the address of their place of abode; or if a corporation, the names and address of its registered agent.
- 13. This permit is issued subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Illinois Environmental Protection Act and all applicable environmental rules and regulations.
- 14. The new units shall not be constructed and operated until such time that a permit has been issued by the Division of Air Pollution Control for their construction and operation.
- 15. The new reactors shall be constructed in accordance with ASTM 3299 or its equivalency.
- 16. The Permittee shall inspect the tanks handling hazardous waste (i.e. tanks involved in receiving, storing, and treating the hazardous waste) and the chemical storage tank for sodium hydroxide yearly to assess their condition. This inspection shall consist of the visual inspections subject to the following modifications:



- a. Tanks shall be entered in accordance with 20 CFR 1910.41(d)(11).
- b. A detailed visual inspection of the tank's interior shall be conducted on an annual basis to ensure the tank's integrity. During this internal inspection, the interior surface shall be inspected for softening, indentations, cracks, exposed fibers, aging, checking. lack of surface resin, delamination, translucency/discoloration, air bubbles and thin areas. Corrective action as specified by the manufacturer of these tanks shall be taken if the internal inspection indicates that the interior surface of a tank system has been detrimentally affected by the hazardous wastes which have been stored, or treated in it.
- c. A leak test or other integrity assessment as approved by the Agency shall be conducted annually on the ancillary equipment.
- d. The annual inspection of each tank shall be certified by a qualified, independent, registered professional engineer.
- e. All waste and washwater generated during evacuation of the tanks shall be managed as a hazardous waste.
- f. If the results of these inspections indicate a tank system is leaking, the permittee must cease using the tank until it is repaired or replaced.
- g. Results of the inspection shall be maintained onsite and made available to the Agency upon request.
- 17. The Permittee shall submit a plan for determining the compatibility between the wastes which are proposed to be received. This shall be submitted at the time that an application for operating the drum storage area is submitted.
- A container holding hazardous waste must always be closed during storage. except when it is necessary to add or remove waste.
- A container holding hazardous waste must not be opened, handled or stored in a manner which may rupture the container or cause it to leak.
- 20. The container in the storage areas must be arranged so that a 2 foot aisle space exists for inspection. Furthermore, containers may only be stored in rows two abreast.
- 21. The container storage areas must be inspected daily for signs of cracks or gaps in the base. Containers must be removed from areas which are showing structural deficiency until such time that the area has been repaired.



- The approval of the design of these container storage areas does not imply that these areas are designed in compliance with 35 IAC 724.
- All wastes received at the facility shall be reviewed for compatibility using the methods and procedures described in "A Method for Determining the Compatibility of Hazardous Waste" USEPA document EPA-600/2-80-076 dated April 1980, in addition to the facilities approved waste analysis plan. The Permittee shall not store containers holding waste that is incompatible with any waste or other materials stored nearby unless it is separated from the other material and protected from them by means of a dike. berm or other device.
- All lab packs shall be opened within the confines of an operating fume hood.
- A packing list identifying all hazardous waste classes inside of a lab pack must be attached to its outside container prior to it being placed into storage.
- 26. Only lab packs packaged in accordance with 49 CFR 173.12 may be received at this site for temporary storage, repackaging/consolidation of compatible materials for onsite treatment, or treatment/disposal offsite at permitted facilities.
- 27. Fume hoods shall be constructed in accordance with the practices recommended by ACGIH Committee on Industrial Ventilation.
- 28. Ventilation of the lab pack area must be in accordance with 29 CFR 1910.1000.
- The new line storage silo and ferric chloride storage tank shall not be constructed and operated until all necessary permits from the Division of Water Pollution Control and Air Pollution Control have also been obtained.
- The collection of precipitation and run-on within the concrete containment area around the medical waste storage area shall be removed as soon as possible and processed through the treatment plant.
- The facility may only accept wastes in outside storage area #1 which meet the definition of hazardous (infectious) hospital waste as defined in 35 IAC 809.901 or medical waste as defined in 40 CFR 359.30. All wastes received at this facility must be managed as hazardous (infectious) hospital waste. This facility is not permitted to receive any RCRA hazardous waste as defined by 35 IAC 721.103, radioactive waste, mixed waste, or asbestos waste. The facility may only accept the following chemotherapy wastes: gloves, gowns, absorbent pads, empty vials, empty syringes, and empty tubing.



- All wastes in outside storage area #1 shall be stored in an area where the ambient temperature is less than 45° degrees Fahrenheit except when conducting waste transfer operations to avoid putrescible conditions. During waste transfer operations at no time shall the surface temperature of the waste containers be permitted to rise above 60° degrees Fahrenheit.
- 33. Any area in the concrete containment area contaminated by a spill or leak from a medical waste container shall be disinfected in accordance with the truck decontamination procedure.
- 34. The coating in the outside storage area #2 shall be inspected for signs of deterioration after each spill and shall be touched up (i.e. the coating reapplied in the area) if such signs are present.
- 35. All medical wastes shall be packaged in accordance with the requirement set forth in 77 Illinois Administrative Code 250.1720(g)(4).
- A vector control specialist shall inspect the outside storage area #1 at least quarterly. If necessary, vector control measures shall be taken. The results of these inspections shall be maintained as part of the facility's operating record and be made available to the Agency upon written or verbal request.
- 37. The facility shall maintain a daily operating record. The operating record must be able to track waste streams as they pass through the facility. It must have the following entries for each shipment of waste received:
 - A unique identification number for each container received.
 - The generator's name and location.
 - The date and time of arrival.
 - The amount received.
 - The date treated or shipped offsite.

Very truly yours.

Permit Section

Division of Land Pollution Control

LWE:MS:r1c/3917n,46-53

Northern Region

Compliance Monitoring Section

Division File

HEARING NOTES

4

HYON WASTE MANAGEMENT -11700 Stony Island Ave. Chicago

LIQUID WASTE TREATMENT

DATE -

January 22, 1973

IN. ATTENDANCE -

Don Gallay, Div. of Envir. Control, Chicago Ed Pundergast, Div. of Envir. Control, Chicago Ed Pundergast, Div. of Envir. Control, Chicago Walter L. Redmon, U.S.EPA, Chgo.Enforcement Jack A. Meindl, Hyon, Chicago W. Gerry Cousins, International Hydronics Earl W. Knight, MSDGC Thomas Carmody, MSDGC Benn J. Leland, IEPA, DWPC Lawrence Ziemba, IEPA, DWPC

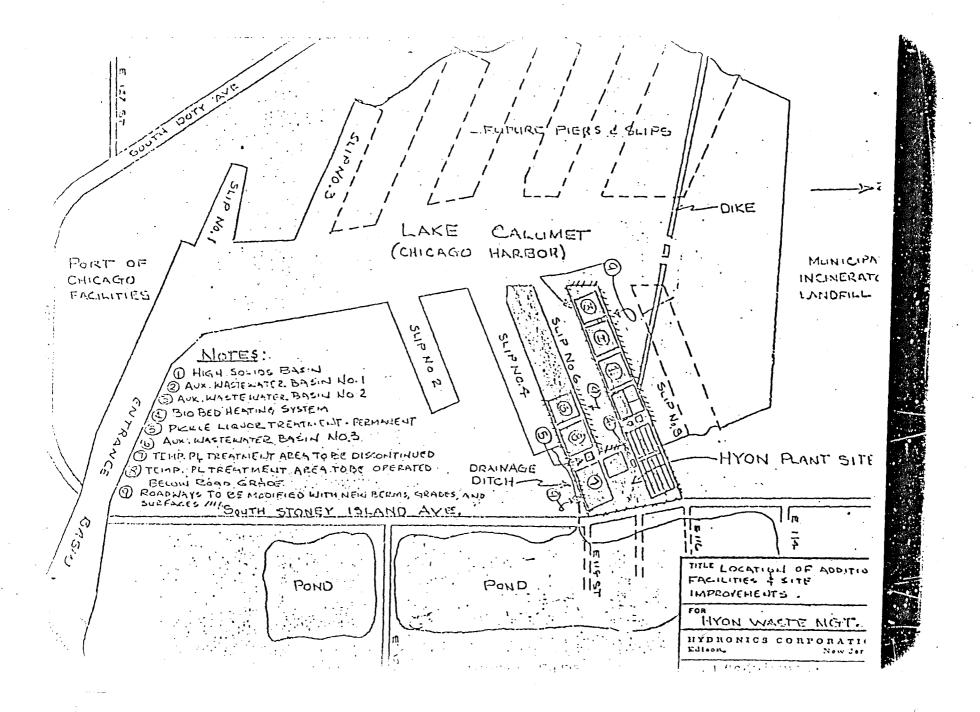
The continuation of the January 19, 1973 MSDGC conciliatory hearing concerning Hyon Waste Management operation was resumed at MSDGC offices at 100 East Erie. During the course of the hearing, the following information was presented:

- A formal proposal for improvement of plant facilities and operation was submitted by Hyon and is attached. Included in this report is a record of operations from January 1 to January 20, 1973 including volumes of receipts received.
- 2. Based on the two-foot liquid basin freeboard requirement, the existing wastewater inventory (excluding pickle liquor system) includes 11,673,000 gallons of a total capacity of 11,800,000 gallons.
- 3. Pickle Liquor System: Iron grade stakes will be provided to ascertain road grade level (10 feet CCD) and adherence to two foot liquid free-board requirement (8 feet CCD). Existing pickle liquor, on hand, will be neutralized and the sludge residue not used in on site road construction will be removed from the site. Over the weekend about 40,000 gallons of pickle liquor was received from Republic Steel and placed in an empty 400,000 gallon lime basin to relieve the existing storage problems at Republic Steel. Hyon's request for additional pickle liquor receipts was withdrawn pending Agency approval and inspection of improved operating practices including construction of appropriate truck off-loading facilities.
- 4. Proposal for future plant operations:
 - (a) Combustibles: Will be received to limit of tank farm storage.
 - (b) Pickle Liquor: As outlined in Item (3) above.

- Final Stabilization Basins: About 1/2 foot freehoard below road grade. (Pirture #7)
- 6. High Solids Area: Surface of contents slightly above road grade. Temporary 3 to 4 foot dyke of piled clay surrounds area perimeter. Mounds of solids within pockets of frozen liquids were observed. Perimeter road was hardened and immediate threat of pollution of adjacent waters (50 feet away) had been alleviated. The odors in the area were quite strong. (Pictures #8 & #9)
- 7. Auxiliary Basin #1: Approximately 2 feet of freeboard (below adjacent road grade) was available. Liquids from the High Solids Area were being pumped to here. Contents were partially frozen. (Picture #10)
- 8. Auxiliary Basin #2: Diked clay perimeter was 4 to 5 feet above road grade. Basin contents were below road grade. (Picture #11)
- 9. Pickle Liquor Treatment Area (South Pier):
 - (a) Irregular arrangement and sizing of lime pits for acid disposal. Basins intended to be 60 feet x 150 foot. Two basins of approximately this size were full of liquid to about 3 feet above road grade (contained only by powdered lime dike). A third basin (at least 150 feet long by about 6 to 8 feet wide) had liquid below road grade. No immediate threat to adjacent Lake Calumet, however, above grade storage, contained only by powdered lime dikes offers a potential threat. (Pictures #12, 13 & 14)
 - (b) Lime pit which received Mobil Oil of Joliet spill: West most basin on south pier: Approximately 250 feet (on a side) square with small finger extending east from north side. Heavy in oil accumulations which were apparently off loaded at east extending end where diking is almost reduced to road grade (balance of perimeter diking is about 2 feet above road grade). (Pictures #15 & #16.)
 - (c) Permanent Pickle Liquor Treatment Facility: Concrete pad and structure were in place. (Picture #17)
- 10. During the course of the inspection the only visible evidence of water pollution was seen south of the High Solids Area on the north Pier. A large (approximately 3000 ft² area) of reddish-brown discoloration was noted in slip No. 6 about 20 feet from shore. This discoloration was frozen in the slip surface. A drainage gully, originating on the southern perimeter road, was observed proceeding down the embankment. The discoloration in the gully was similar to that observed in the lake and dissimilar to perimeter road coloring in areas not immediately adjacent to the observed gully. The gully had been partially filled with loose fill and a canvas hose was laying beside the gully. (See attached pictures #'s 20 & 21)

Lawrence E. Ziomba, Environmental Protection Engineer, Chicago

LEZ:arl 2/14/73



REFERENCE 5



INSPECTION NOTES

HYON WASTE MANAGEMENT SERVICES -

LIQUID WASTE TREATMENT

DATE -

April 4, 1973

INTERVIEWED -

R. B. Bruns, Hyon Jack Meindl, Hyon

WEATHER -

Temperature about 40°F, Cloudy, Light Rain Earlier

At 11:30 A.M. a visit was made to inspect the plant site and to determine the progress being made in correcting the operating deficiencies which culminated in the January suspension of plant operations. During the course of the inspection the following information was obtained:

Pickle Liquor Treatment Area: The two temporary basins contained minimal amounts of waste pickle liquor. Levels were several feet below the maximum operating depth of 8 feet CCD (2 feet below road grade). According to Bruns, only small amounts of pickle liquor are being received since their major customer Republic Steel (past average volumes of 40,000 gallons per day) is no longer hauling to Hyon. Bruns stated that the stabilized acid-lime sludge is being used for road construction on the west end of the undeveloped south pier (as a foundation for clay surfacing). In addition, this sludge is being used to prepare the barge receiving area on the extreme western edge of the south pier (the only part of the plant site that is adequately dredged off shore for barge traffic). Bruns stated that this sludge will not be used close to the water's edge in order to preclude any possible leaching into Lake Calumet.

Bruns and Meindl gave the impression that large scale pickle liquor operation will be discouraged due to past problems and the eminent disposal problem associated with final sludge disposal due to the approximate volume ratio of 1.4: 1.0 (stabilized, dewatered, acid-lime sludge: Sulfuricard pickle liquor). Even though volume reductions are anticipated, the permanent pickle liquor treatment system should be ready within the month.

- 2. Bio-Chemical Treatment Area (low insoluble content wastes):
 - (a) Receiving Station: Being used as temporary oil-water separator for disposition of potential incinerables.
 - (b) Dewatering of beds to Auxilliary Basin almost completed (continuing due to new rainfall).

2. Continued

- (c) Renovation of bed electrical work has been completed.
- (d) Activated Sludge System: Diffused air acration will be installed in mix tanks. Existing mechanical acrators will be used in intermediate basin. All above ground piping has been adequately insulated.
- (e) Intermediate and Final Stabilization Basins: No available capacity since liquid levels are almost at road level. Immediate relief will be initiated by next week when a new 3 inch line will be used to dewater the intermediate basin to the new 5 million gallon auxilliary basin (#3) on the south pier. This new 3" line will be constructed from the incinerator to auxilliary basin #3 (existing piping conveys waste water from the intermediate basin to the incinerators for use in the evaporative scrubbers).
- (f) Additional piping will transfer storm drainage from the incinerator area into the new auxilliary basin #3 in order to releive the loading on the eastern Final Basin which presently receives storm runoff from the incinerator area.
- 3. Utilization of the new auxilliary basin (#3) was deemed necessary by Hyon in order to releive the existing wastewater imbalance. Hyon estimated that over the past weekend approximately 680,000 gallons of storm water were accumulated in plant basins. This wastewater imbalance will be continually increased by spring rains and can only be relieved by warmer drier weather (evaporation), the new auxilliary basin #3, or start-up of the new incinerator.
- 4. Incinerator Area: Adequate control of wastewater inventory is contingent upon start-up of the main incinerator and evaporative scrubber. The transformer, switch gear, and motor control system are completed. Permission has been received from the City of Chicago to "dry out" the refractory with #2 fuel oil sometime next week. If start up operations proceed as scheduled the incinerator should be on line by the last week in April.
- 5. Oil from Mobil, Joliet Oil Spill: Basin level has been reduced to below road grade by partial tank truck skimming to small incinerator and draining of pickle liquor to adjacent (eastern) lime basin.
- 6. High Solids Area: No immediate plans; final action contingent upon clement weather which will allow removal of solids and planned installation of concrete base. The area is presently diked with clay in order to contain any liquids.
- 7. March Receipts: Detailed inventory will be presented in monthly operations report to be submitted shortly. However, of estimated 500,000 gallons received, about one-half dispatched to storage (on site tank farm and North American Tank Car storage facilities in Lemont) and balance burned in small incinerator or treated in temporary pickle liquor facilities.

- 8. Anticipated Start-Up of Bio-Chemical System: Due to corporate economical pressures, all efforts will be made to resume operation by late next week (conditionally contingent upon large incinerator operation and/or dewatering of north pier intermediate and final stabilization basins to auxilliary basin #3). An on site inspection by all concerned regulatory agencies will be held prior to resumption of operations.
- 9. Area northeast of old temporary pickle liquor disposal sites (location: directly east of permanent pickle liquor treatment facilities presently under construction). See January 21, 1973 Inspection Notes for description of these "old" temporary sites (item 9 (a) and Pictures No. 12, 13 & 14): An area of approximately 20,000 ft² was covered with brown surface waters which Meindl referred to as leachate from the neutralized pickle liquor. The color was attributed to Iron Sulfate. There was no immediate pollutional threat to any surface waters due to the low, localized elevation; however, the problem of future liquid leaching from anticipated acid disposal operations may pose a problem. The contributing factor to the accumulated brown waters may have been the above road grade levels that were maintained, initially, in these lime basins.
- 10. The attached pictures were taken during the time of the inspection (refer to the attached map).

Lawrence E. Ziemba, Environmental Protection Engineer, Chicago

LEZ:arl 4/12/73

